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ORIGINAL LECTURES.

CLINICAL LECTURE

ON REMITTENT FEVER COMPLICATED WITH HÆMATURIA AND TYPHOID SYMPTOMS—THE TREATMENT OF RHEUMATISM.

Delivered at the Philadelphia Hospital

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Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—In the case that I shall bring before you to-day there are some rather unusual features, which require study. The history is as follows. The patient, a laborer, 28 years of age, and a native of Ireland, was admitted to the hospital October 11, 1883. He says that he has been temperate, and denies all venereal history. He was well up to the summer of last year, at which time he was working in New Jersey, and had malarial fever. This continued for two months. In September last he again had chills and fever. On the 1st of October he was exposed to rain, and this exposure was followed by diarrhœa and a feeling of exhaustion. When admitted into the wards, the diarrhœa was slight, but he passed large quantities of dark-colored urine.

It is evident from this history that the man has had malarial fever; but the symptoms which he presented on admission were also of a kind to suggest typhoid fever. But, after watching the temperature and other features of the case for a few days, it became evident that this diagnosis could not hold. I wish to-day to call attention to the points in this case and discuss them with you, and draw such conclusions as may appear justified.

In the early part of the attack the patient had diarrhœa. When I first saw him, he had a dry, coated, leathery tongue. These, with a more or less constant feverish condition, are the suggestive symptoms alluded to; but careful examination of the abdomen failed to reveal the presence of the characteristic spots of typhoid fever. Even if this eruption, which usually appears about the eighth day, be not present, the temperature-record will in ordinary cases enable the diagnosis to be made. The course of the temperature in typhoid fever is as follows: there is always an evening rise and a morning fall; but, as the temperature is recorded day after day, it is observed that the evening temperature is always a little higher than that of the previous evening, and each morning temperature a little higher than that of the previous morning: so that we have a tidal rise in the temperature, which in the course of the second week reaches its maximum. As the diagnosis in this case was not positive, the temperature was carefully taken twice a day. October 12th, A.M., it was 100.4°; P.M., 103.2°; 13th, A.M., 98.6°. This was altogether unexpected. Instead of being higher than the previous morning, it was two degrees lower. On the evening of the 13th the temperature was 100.6°, higher than the morning temperature, but still considerably less than the previous evening; 14th, A.M., 100°; P.M., 100.4°; 15th, A.M., 99°; P.M., 100.6°; 16th, A.M., 98.4°; P.M., 98.2°; 17th, A.M., 98.4°; P.M., 100.4°. It is not necessary to go further with the reading of the temperature. It is at least evident that there is nothing of the nature of a tidal rise. On the other hand, there is quite a constant morning temperature, which by evening has gone up to about 100°. It is clear that this is not a case of typhoid fever. There is another symptom in this case which does not belong to typhoid fever: there is more or less constant bloody urine. I can account for this condition on no other ground than that it is malarial in its origin. There is no undue frequency of micturition, and no evidence of disease of the bladder or of the kidneys.

The only conclusion to which I could come, in view of these facts, was that our patient's disease was essentially malarial fever of the remittent type, with typhoid symptoms, and might be called typho-malarial fever.

Now, there are two ways in which this term may be applied. In the first place, that disease may be called typho-malarial fever in which there is malarial fever complicated with typhoid symptoms, or the term may be applied to cases in which the two diseases exist together,—that is, typhoid fever running *pari passu* with ma-

larial fever. A third application of the term typho-malarial fever has been made; that is, to indicate a special form of fever with its own morbid anatomy, distinct from that of typhoid fever and of malarial fever. But this idea, which originated with Dr. Woodward, of the army, has been given up. Can we in this particular instance settle this question? Can we say whether it is a case of malarial fever with a typhoid complication, or whether it is a case in which typhoid and malarial fevers are concurrent? In the first place, there can be no doubt that two general diseases may coexist in the same individual. You have probably all heard of measles and scarlet fever running their course together. Some diseases are nearly always associated, as, for instance, pneumonia and pleurisy, and pneumonia and bronchitis; but I am now referring more particularly to general diseases.

There is, therefore, no reason why we should not have malarial fever and typhoid fever concurrent. But let us discuss somewhat further the grounds on which we conclude that such is not the case in the present instance. This patient has been under observation for twenty-one days. As a rule, a case of typhoid fever either becomes decidedly convalescent or else ends fatally by the end of the third week. In the course of the third week the temperature begins to fall, and there is a tidal decline. The morning temperature is a little lower than that of the previous morning; the evening temperature a little higher than the temperature of the morning of the same day, but a little lower than that of the previous evening. If this were a case of typhoid fever, we should expect it to show some disposition to terminate. In point of fact, during the past week the symptoms have become aggravated. His dry tongue had, under the use of turpentine, become moist, and all the symptoms, excepting the hæmaturia, had improved; but last week they became aggravated, and the temperature rose decidedly. On October 24th and 25th the temperature was normal. On the 26th it began to rise, and reached 103°. The next day it was in the morning 103°, and in the evening 104°. Since then the temperature has not been below 100° until the evening of October 31st, when it was 98.4°.

These symptoms, however, suggest a relapse in typhoid fever. You are aware that relapses in this disease are not infrequent; but when typhoid fever relapses it repeats its previous history. The spots, diarrhœa, and peculiar temperature recur. But there has been no diarrhœa; there are no spots on the abdomen; there is no tympanitis; neither is there marked abdominal tenderness. This case does not give us a repetition of the symptoms of typhoid fever, and we cannot consider it a relapse. I feel constrained to class this as malarial fever of the remittent type; for, as you see, there is more or less continuous fever. There are also typhoid symptoms, so that in one sense of the term it is a case of typho-malarial fever; but it is not a case of concurrent typhoid and malarial fever.

As we were under the impression, when he was first admitted, that we had a case of typhoid fever to deal with, he was placed upon a treatment which would really answer for both diseases. In the first place, I always begin the treatment with quinine for a few days, for it is often impossible to tell at first whether a fever is malarial or typhoid. Sixteen grains of quinine per day, continued for four or five days, will have the effect, in the first place, of keeping up the powers of resistance of the patient, and, in the second place, will remove any malarial element. We used quinine in the present case, and the symptoms were much improved. On account of the condition of the tongue, I also ordered ten drops of turpentine four times in the twenty-four hours. We made no local application, as is our custom in typhoid fever, in the form of poultices and turpentine stupes. Under this treatment he improved decidedly. Last week we suspended the treatment, and in the result of this suspension of treatment we have another evidence of the malarial nature of the disease. As soon as the treatment was stopped, all the old symptoms returned. We again returned to quinine and turpentine; but during the past twenty-four hours the administration of these remedies has been interfered with by "hiccough."

The treatment of this symptom has therefore claimed our attention exclusively during this period. Sometimes it is a mere nervous symptom, which a more powerful nervous impression will cause to disappear. At other times it becomes a severe and

obstinate complication. You all perhaps recall the treatment for the hiccough of our childhood,—that is, the taking of three swallows of water without interruption, which is the substitution of one nervous impression for another. Hiccough is a spasmodic contraction of the diaphragm, with sudden closure of the larynx. A variety of remedies have been recommended: one of the best is counter-irritation in the region of the diaphragm. A large mustard-plaster will often answer the purpose. If counter-irritation fails, morphia, in doses of one-quarter of a grain three or four times a day, may be employed. Failing in this, chloroform, in the form of the spirit or tincture, may be employed in doses of half a teaspoonful every three or four hours. Hoffman's anodyne is sometimes employed with advantage. Nitrite of amyl is also given with satisfactory results. In administering this remedy, the little glass pearls should always be used, one of them being crushed in a handkerchief and the drug inhaled. Another remedy which has considerable reputation in hiccough is musk. As it is doubtful whether we can now procure pure musk, it is not administered as often as it formerly was. Chloral in combination with bromide of potassium is an excellent remedy. The order in which, under ordinary circumstances, I would use these remedies is the following: counter-irritation with mustard, chloral, opium, chloroform, Hoffman's anodyne, musk, and finally a blister, as we have done in this case. The hiccough has been somewhat improved since the application of the blister. It is intermittent, lasting for a few hours, and then disappearing for several hours.

During the last few days there has been gradual improvement. The fever has diminished, and the amount of blood in the urine has lessened. This is a specimen of the urine last passed. From its appearance, only, it would be impossible to say whether or not it contains blood. A small quantity of blood in an acid urine gives the liquid a smoky hue, of which this is a fair representation. Sometimes the urine is perfectly clear. This is characteristic of malarial hæmaturia.

We have come to the conclusion that this is a case of remittent malarial fever with typhoid symptoms. As to the cause of these symptoms, it is difficult to say. He may be the subject of septic conditions resulting from his residence, habits, or other causes. Typhoid fever is a form of septic fever, resulting from the absorption into the blood of putrid poisons; but there may be other forms of manifestation of septic fever than the symptoms of typhoid fever. This man may have had introduced into his system septic matters giving rise to the symptoms which he has presented.

THE TREATMENT OF RHEUMATISM.

I shall devote the few remaining minutes of the hour to the consideration of a case of rheumatism. He gives the following history. He is 37 years of age. Seven years ago he had typhoid fever, and five years ago he had rheumatism in the left shoulder, hand, and foot. The present sickness began in December, 1882. While cutting ice, he became wet, and remained in his wet clothing for half an hour. The next day he was taken sick with fever. The right wrist soon became swollen. The swelling next affected the right ankle, and then the left ankle. Looking at his wrists, you observe a peculiar deformity, which is due to accumulation of fluid. In other words, these joints are the seat of rheumatic synovitis. The joints of the feet are also affected. The early history of this case is typical of acute articular rheumatism. The form of exposure which preceded the development of the acute symptoms is that which is peculiarly prone to develop acute articular rheumatism. I refer to exposure to cold and wet combined. The swelling and pain left one joint to appear in another. This is characteristic of rheumatism. He has never been well since this attack developed, but the acute symptoms have subsided, and there is now a condition of subacute rheumatism.

When taken sick, he sought no advice but that which he could gain at a drug-store. He was given something to take internally, and a liniment to rub the affected joints. This is just the sort of treatment we should expect to be followed by the chronic form. It used to be said that the best cure for rheumatism was "six weeks," by which was meant that there was no remedy which was of especial service in this affection, and that under ordinary circumstances it would get well of itself in six weeks. Although this may have been true then, it is not true at the present time. There is no doubt that we

have in salicylic acid and the salicylate of sodium remedies which greatly increase our power over rheumatism. We now take hold of a case of acute rheumatism with the greatest confidence. In my own experience I do not recall a single case of acute articular rheumatism coming under observation at an early period in which salicylate of sodium failed to bring about a cure. If this man had been properly treated, he probably would not have been here to-day.

My method of giving salicylate of sodium is to administer ten grains every two hours, and continue this until the pain has disappeared and the swelling diminished. After the disease has yielded, it does not do to stop the treatment, but the remedy must be continued for ten days or more, ten grains being given every four hours.

Salicylate of sodium is not the only remedy of service in acute rheumatism, and there are certain conditions which call for a modification of the treatment. When the patient has not been in a condition of previous good health, but has been depressed by unfavorable hygienic surroundings, it is often necessary to combine iron with the salicylic acid. At times iron alone is sufficient.

After a case has passed into the subacute form, as in the present instance, how is it to be treated? Is salicylic acid of any service in this condition? It may be, although less certainly than in acute rheumatism. At the same time, I am apt to begin the treatment with salicylic acid; but the method in which I have most confidence is that by counter-irritation with fly-blisters. A blister one or two inches square should be applied over the various joints in succession, and the counter-irritation kept up for weeks. In a case like this it is not always necessary to resort to so formidable a remedy as blisters. Painting the parts with iodine will sometimes cause absorption of the fluid and the disappearance of the symptoms. The internal use of iodine and iodide of potassium is also resorted to in these cases. Iodide of potassium may be given in doses of ten grains three times a day, or Lugol's solution may be substituted and continued for a considerable length of time.

The question has probably arisen in your minds, Is salicylate of sodium of service in what is called muscular rheumatism? It is not nearly so useful in this affection as in acute articular rheumatism. Although I have known it to be occasionally of service in such cases, the best treatment in my experience for muscular rheumatism is dry and moist heat, and moist heat in the majority of cases. This form of heat is obtained by the use of hot baths. I have recently used, with much satisfaction, hot soda-baths, in which from half a pound to a pound of washing-soda is added to an ordinary bath of hot water. This should be taken on going to bed. The use of dry heat is also of service. One of the most annoying forms of muscular rheumatism is the ordinary stiff neck. The best remedy for this condition is a gum bag filled with hot water, on which the neck should be laid on going to bed. In the majority of cases the pain will have disappeared before morning.

ORIGINAL COMMUNICATIONS.

A NEW METHOD FOR DETERMINING THE AMOUNT OF BLOOD THROWN INTO THE ARTERIAL SYSTEM BY EACH VENTRICULAR SYSTOLE, AND FOR ESTIMATING THE TIME REQUIRED FOR THE CIRCULATION OF THE BLOOD.

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FROM the time of Santorini (1724) various attempts have been made to determine the quantity of blood thrown out from the heart at each contraction of the ventricles.

Santorini, followed by Legallois (1824) and Colin, estimated the cubic contents of the chambers of the heart by filling them after death, before the onset of rigor mortis, with a fluid of known density, and assumed that the amount so determined coincided with the quantity of blood propelled by the heart at each contraction during life. But this method, as well as that employed by Brücke (1850), Hiffelsheim, and Robin (1864), of making wax casts of the chambers of the heart after death, is open to the objections that nothing is positively known as to whether the ventricles completely empty themselves in their systole or not, or under what pressure they are filled: the importance

of a consideration of the latter point will be referred to later.

Nor can the observations of Abegg (1848) be regarded as throwing any additional light on this subject. He opened the thorax of a living animal and ligated all the vessels at their origin and termination in the heart, the arteries being first closed: the heart was then excised and weighed, and, after allowing the contained blood to escape, was weighed again, the loss of weight giving the weight of the blood. It is, however, manifestly unwarrantable to assume that this amount was evenly distributed among the four chambers of the heart; while, even if we waive this objection, and further assume that each cavity was filled under its normal tension, the experiment does not assist in determining the amount of blood thrown out at each contraction, especially since Sandborg and Worm-Müller have shown that it is by no means certain that the ventricles completely empty themselves during systole.

Volkmann in 1850 reckoned the capacity of the ventricles in the following manner. He first estimated the velocity of the circulation in the carotid by means of his hæmodromometer (a thoroughly unreliable method), and then the cross-section of the aorta: from these data he calculated how much blood passes through the *aorta* in a unit of time. If, then, the amount of blood in the body be known, the time necessary for its complete circuit can be calculated; and, if the number of pulsations of the heart in this time are known, the amount thrown out at each pulsation is readily reached.

It is seen, however, that the corner-stone of this argument rests upon an accurate determination of the velocity of the circulation in the aorta, a quantity of such great variability, as shown by Ludwig and Dogiel, as to render the statement of any estimate of its average velocity entirely unjustifiable; and when it is remembered that Volkmann's estimate of even this quantity was reached from measurements made on the *carotid*, the unreliability of his conclusions is still further emphasized.

Vierordt's method is based upon the same principle as that of Volkmann, and is therefore open to the same objections.

More recently, Fick (1869) has attempted to estimate in man the rapidity of the circulation, and the amount of blood thrown out at each contraction of the heart, by measuring by means of the plethysmograph the increase in the volume of the arm at each cardiac systole. By this means, however, he was able simply to determine how much more blood was forced into the axillary artery than escaped within the given time-unit through the axillary vein, and not the absolute amount of blood forced into the arm. In order to supply this deficiency, he assumed that the variations in rapidity of circulation in man coincided with the measurements made by Chauveau, Berthollus, and Lavayenne on the horse, and constructed the point of equilibrium in the vessels of the arm from an observation of Marey on the alterations of the rapidity of the circulation in the carotid of the horse. By this plan, knowing the ratio between the lumen of the axillary artery and that of the aorta, he was able to calculate the amount thrown out during systole of the left ventricle. His estimate, however, falls far below that of the majority of observers: thus, Fick's estimate was about 76 c.c.; Krause's, 160 grms. (obtained by measurement after death); Volkmann's, 187.5 grms.; Vierordt's, 180 grms.

It is worthy of notice that as yet no attempt has been made to measure directly during life the quantity of blood thrown out by the heart, and it is evident that any method by which this amount can be so determined must give far more accurate results than one depending on such uncertain data as those heretofore employed. The method which I employed last summer in the Leipsic Physiological Institute, under the direction of Prof. Ludwig, renders this possible and promises to yield valuable results. The present communication, however, is only to be regarded as a preliminary note.

The plan of the research rests upon the diversion during life of the entire arterial blood-current, directly after leaving the left ventricle, into a reservoir of known capacity, then into the right heart, then to the lungs, and finally again to the left ventricle: so that, while the pulmonary circuit remains undisturbed, a vessel in which the rapidity and volume of the arterial stream can be measured is substituted for the systemic circulation.

The great bulk of the arterial system

was obliterated by passing a flexible rubber catheter, terminating in a small rubber bulb, through the left axillary artery into the descending aorta, so that the bulb occupied a position directly below the arch of the aorta. In the undistended condition, the catheter and bulb, being so much smaller than the calibre of the aorta, did not materially interfere with the normal blood-supply of the trunk and lower extremities: this was always tested by measuring the blood-pressure in the vessels of these parts by means of a manometer connected with the femoral artery. As soon, however, as the bulb was distended by injecting water through the catheter, the blood-pressure, as measured in the femoral artery, instantly fell to zero, showing a complete occlusion of the dorsal aorta; while, from the position of the bulb, which was always verified by post-mortem examination, the only arteries still remaining patulous were the coronaries and the two subclavian and carotid trunks, with their branches. This can be made evident by reference to the diagram of the great vessels in the dog, the animal always employed in these experiments. It is there seen that immediately after leaving the arch of the aorta, the subclavians (or, more strictly, the axillaries, as the dog has no clavicle) give off four large arteries, the vertebral, the profunda, the mammary, and a muscular branch. These vessels are ligated on both sides of the neck, so leaving only the carotids to carry blood to the brain during the intervals of the experiment.

If now a canula be inserted in the right axillary artery on the proximal side of the ligature, and connected by tubing with a canula in the right external jugular vein, the carotids being occluded by loops and the bulb in the aorta distended, all the blood driven out by the left heart at each pulsation will be forced into the jugular vein, and so into the right heart. It then only remains to determine the amount of blood passing through the connecting tubing in any given unit of time, which quantity, divided by the number of pulsations in the same time, will give the amount of blood forced out from the heart at each pulsation.

The instrument which I used to measure the flow of blood through the right axillary artery was a modification of Ludwig's rheometer (stromuhr). The essential parts of this instrument (see fig.) are two communicating glass vessels (*a* and *b*), whose cubic contents from the constriction at *c* to the constriction at *d* are accurately known, inserted in the metal disk *f*, which is capable of being rotated through half a circle on *g*. The tubes *h* and *h'* communicate at one end with the bulbs *a* and *b*, and at the other with canulæ inserted in the blood-vessels, the apparatus being so arranged that the blood-current enters at *h*; the bulb *a* with its tube, and the tube *h* up to *c'*, are filled with defibrinated blood, while the bulbs *k*, *k'*, and *b*, and the connecting tube *l*, are filled with oil. When the blood from the artery is allowed to enter *h*, it forces the oil in *b* before it over into *a*, while the blood contained in the latter enters the blood-vessel through *h'*: when the bulb *b* is entirely filled with blood, the bulbs *a* and *b* are turned through a half-circle and the process repeated. It is then only necessary to know the time required to fill either bulb to know the quantity of blood flowing in that time through the artery.

It was found in my earlier experiments with the ordinary form of stromuhr that the force of the blood-current was so great as to drive the blood in jets through the oil contained in the bulbs, instead of gradually displacing it and thus rendering it impossible to determine the exact time when the bulbs are filled. After testing various modifications in the form of the stromuhr, the following seemed to overcome this difficulty: a T-tube was inserted into *h*, the cross-arm of which communicated with a metal capsule whose top was formed by a rubber membrane; the elasticity of this membrane served to overcome the intermittent force of the pulse and to render the stream continuous, besides greatly reducing the resistance of the stromuhr.

The shape of the stromuhr was further modified, as shown in the diagram, so as not only to break up the force of the entering blood-stream, but also to permit a more accurate estimation of the time at which the bulbs were filled. The bulbs were also made much larger than in the earlier form. The stromuhr was further so arranged that each time the disk was turned through a half-circle it alternately opened and closed an electric circuit passing through an electro-magnetic lever writing on the revolving drum of the kymographion.

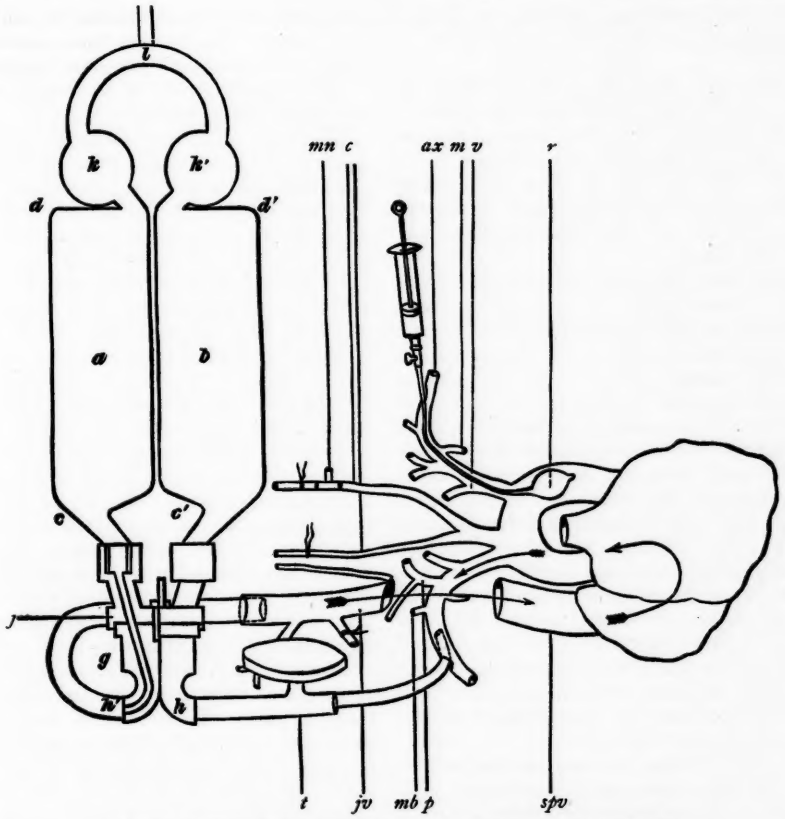

DIAGRAM OF GREAT VESSELS OF THE DOG, AND ARRANGEMENT OF APPARATUS.

ax, axillary artery; *m*, mammary artery; *v*, vertebral artery; *p*, profunda colli; *mb*, muscular branch; *spv*, superior vena cava; *jv*, right external jugular vein; *c*, carotid arteries; *mn*, manometer; *t*, metal capsule with rubber membrane; *r*, rubber bulb of catheter. In order to avoid complication, the arrangements for turning the stromuhr and for opening and closing the recording electric circuit are not represented.

Method of Experimentation.—In some cases the dogs were first narcotized with chloral; but this, combined with the peptone that was subsequently injected to prevent coagulation, seemed to increase the fatal tendencies of the latter, and several experiments failed on this account. In other and more satisfactory cases the animals were chloroformed during the operation, and then allowed to regain consciousness before the peptone was given, the latter being sufficiently narcotic to prevent pain and to keep the animal motionless.

The first step in the operation, after performing tracheotomy, was to insert a canula into the crural vein, for the injection of the peptone solution, and then to connect the crural artery with a mercurial manometer to determine the time at which the aorta was occluded.

An incision was then made on the right side of the neck, a little above and parallel to the first rib, all vessels lying in the course of the incision being divided between two ligatures, and the axillary artery exposed where it crosses the first rib, carefully raised with a blunt hook, and all its branches tied. The success of the experiment depends upon the occlusion of every branch given off by the axillary artery: as already stated, these are usually four in number. The right external jugular vein is then isolated well down in the neck, its branches tied, and a loop placed around it. This loop, as well as the one around the axillary artery, is not tied until the last moment, so as to pre-

serve the circulation unaltered as long as possible, and to prevent the formation of clots.

The right and left carotid arteries are then isolated and surrounded by loops.

The left axillary artery is then exposed and its branches tied as in the case of the right. On this side the operation is more difficult, from the deeper seat of the vessels, and there is more danger of wounding the pleura.

For every kilo of body-weight of the animal three cubic centimetres of a ten-per-cent. solution of pure peptone in half-per-cent. salt solution are then injected into the femoral vein, to prevent coagulation of the blood. The first effect of this injection is to cause a marked temporary reduction in blood-pressure from vasomotor paralysis; the measurement of the flow through the aorta is not attempted until the vessels have nearly regained their normal tone; the blood remains incoagulable for several hours.

Glass canulæ of the same diameter as the blood-vessels are then inserted into the right axillary artery and jugular vein, filled with defibrinated blood, and connected with the tubes of the stromuhr, which had been previously filled, as described, with defibrinated blood and oil.

A small T-tube is then inserted in the left carotid artery, on the proximal side of the loop, and connected with a Fick's spring manometer to measure the pressure in the stromuhr and to count the pulsations of the heart. The object of the T-tube is to permit the free supply of blood to the brain in the intervals of the experiment. The catheter and bulb are then inserted through the left axillary artery and pushed to their proper position, determined by measurement, in the aorta.

The manometer in the carotid and the electric marker of the stromuhr write in a vertical line over a seconds time-marker on the revolving drum of a kymographion.

The bulb in the aorta is then distended, and as soon as it is certain that the aorta is occluded, the loops on the carotid are elevated and the stromuhr turned so that the blood enters it from the aorta. As soon as the bulb is filled, the stromuhr is turned and the operation repeated until the oil and blood become so mixed that the time required to fill each bulb can no longer be accurately determined. The animal is then killed by injection of curare, and the heart immediately excised and placed in a ten-per-cent. solution of sodium chloride to prevent coagulation of the myosin of the heart-muscle; rigor mortis is thus prevented.

The two coronary arteries are then ligated, the greater part of the left auricle cut away, and a wire ring stitched to the free edge of the remaining portion, and, after destroying the semilunar valves, a graduated glass tube bound into the aorta. The heart is then re-immersed in a ten-per-cent. salt solution until all the cavities are filled with the liquid, when the heart is suddenly elevated so as to close the mitral valve. The fluid on the outer surface of this valve is then removed with a pipette, and that in the aortic tube withdrawn with a siphon until the level of the aortic orifice is reached. The siphon is then pushed down to the apex of the ventricle and its contents drawn off and measured; by this means every drop of fluid in the ventricle can be drawn off and the cubic contents of the cavity so determined compared with the quantity thrown out at each pulsation during life.

The pressure, therefore, to which the ventricle is subjected when its capacity is measured after death is zero, because, as shown in Goltz and Gaule's experiment, there is a negative pressure in the left ventricle during its diastole, and because, as shown in Experiment I., the slight increase of pressure on the walls of the ventricle caused by a column of salt solution of 39 mm. in height is capable of increasing the capacity of the ventricle by one-third.

The following are the details of some of the experiments made after this method:

Experiment I.—The stromuhr without rubber capsule was employed; its resistance was estimated at 130 mm. mercury. The blood-pressure in the carotid, after closure of the aorta and all blood-vessels with the exception of the two vertebrals, which by mistake were left open, was 135 mm. mercury. Respiration was natural throughout the entire experiment.

The average number of heart-beats required to fill each bulb was 12, and, as the bulbs contained 123 c.c., the quantity thrown out at each pulsation was about 10 c.c. This coincided with the cubic capacity of the left ventricle as measured after death, viz.:

Capacity of the heart under 0 mm. ten-per-cent. salt solution pressure = 10 c.c.; under 28 mm. salt solution pressure = 11.5 c.c.; under 35 mm. salt solution pressure = 13.5

c.c.; under 39 mm. salt solution pressure = 15 c.c.

Experiment II. — Dog: chloralized and peptonized; artificial respiration. All the vessels were correctly ligated, and the rubber bulb of the catheter occupied its proper position in the aorta. The stromuhr with rubber capsule was employed; its resistance estimated at 10 mm. mercury. Pulse recorded with Fick's manometer in connection with the carotid.

First Series.

Observation.	Pulsations.	Time.	Amount expelled at each beat.	Heart-rate per min.
1	53	24 sec.	$2\frac{17}{53}$ c.c.	132
2	43	18 sec.	$2\frac{27}{43}$ c.c.	140

Second Series.

1	55	27 sec.	$2\frac{13}{55}$ c.c.	120
2	44	20 sec.	$2\frac{25}{44}$ c.c.	132
3	53	24 sec.	$2\frac{17}{53}$ c.c.	132
4	51	24 sec.	$2\frac{21}{51}$ c.c.	130
5	50	23 sec.	$2\frac{23}{50}$ c.c.	130

Average amount thrown out at each pulsation = 2.4 c.c.

Cubic capacity of left ventricle measured after death under zero pressure = 6.0 c.c.

Experiment III. — Dog narcotized with chloral: coagulation prevented with peptone. Stromuhr and capsule employed.

First Series.

Observation.	Pulsations.	Time.	Amt. expelled at each beat.	Heart-rate.	Respiration.
1	40	—	$3\frac{3}{40}$ c.c.	—	Artificial.
2	36	—	$3\frac{15}{36}$ c.c.	—	"
3	37	15 sec.	$3\frac{12}{37}$ c.c.	148	Natural.
4	36	15 sec.	$3\frac{15}{36}$ c.c.	144	"
5	32	15 sec.	$3\frac{27}{32}$ c.c.	128	Artificial.
6	30	15 sec.	$4\frac{1}{10}$ c.c.	120	"
7	30	16 sec.	$4\frac{1}{10}$ c.c.	120	"
8	30	15 sec.	$4\frac{1}{10}$ c.c.	120	"
9	134	72 sec.	——	—	Without respiration and without closure of the aorta.

Second Series.

1	54	17 sec.	$2\frac{15}{54}$ c.c.	190	Artificial.
2	53	17 sec.	$2\frac{17}{53}$ c.c.	—	"
3	50	16 sec.	$2\frac{23}{50}$ c.c.	—	"
4	46	14 sec.	$2\frac{31}{46}$ c.c.	—	Natural.
5	43	14 sec.	$2\frac{37}{43}$ c.c.	140	"
6	43	14 sec.	$2\frac{37}{43}$ c.c.	"	"
7	54	17 sec.	$2\frac{15}{44}$ c.c.	190	Artificial.
8	55	17 sec.	$2\frac{13}{55}$ c.c.	—	"
9	52	16 sec.	$2\frac{19}{52}$ c.c.	—	"
10	53	17 sec.	$2\frac{17}{53}$ c.c.	—	"

Cubic capacity of left ventricle estimated after death = 10 c.c. under zero pressure.

Weight of dog = 10 kilo.

Experiment IV.—July 21. Dog narcotized with chloroform, and then with chloral. Stromuhr with capsule employed.

Observation.	Pulsations.	Time.	Amt. expelled at each beat.	Heart-rate.	Respiration.
1	10	$5\frac{1}{2}$ sec.	12 c.c.	110	Normal.
2	13	$6\frac{1}{2}$ sec.	$9\frac{6}{13}$ c.c.	—	
3	17	$7\frac{1}{2}$ sec.	$7\frac{4}{17}$ c.c.	—	Irreg'lar.
4	23	$7\frac{1}{2}$ sec.	$5\frac{6}{23}$ c.c.	—	
5	30	12 sec.	$4\frac{1}{10}$ c.c.	150	

Cubic contents of left ventricle = 16 c.c., zero pressure. Weight of dog = $12\frac{1}{2}$ kilo.

Several conclusions may be drawn from these experiments.

In the first place, it is seen that the amount of blood thrown out by the heart is by no means a fixed quantity, and that measurements made of the capacity of the ventricles after death have no value in this connection: the only instance in which these quantities were at all approximate is seen in the first experiment; but in this case, from an accidental disarrangement of the apparatus, the pulse had to be counted in the jets of blood in the stromuhr. An error could thus easily have been made.

As a rule, more blood is expelled from the left ventricle when the rate of pulsation of the heart is slow than when rapid. This is well shown in Experiment IV., where, in the first observation, 12 c.c. were thrown out at each beat, the rate of pulsation of the heart being about 110 per minute; while, when the heart-rate was increased to 150 per minute, only $4\frac{1}{10}$ c.c. were expelled. These are two extreme cases. The other observations serve to confirm this statement. It is also to be expected that the character of the respiration would influence the quantity of blood leaving the ventricles, or, more properly, entering them.

When artificial respiration is employed, the aspirating effect of the lungs is not only lost, but the dilatation of the heart is hindered by the positive pressure exerted on its walls by the lungs; the heart will, therefore, fill itself incompletely, and therefore discharge less blood, while the rate of pulsation will ordinarily be increased. This state of affairs is seen in the latter part of Experiment III.

In these experiments the amount of blood leaving the left side of the heart has been alone measured; but, of course, all that has been said of the left ventricle applies equally to the right, since they must propel equal amounts of blood simultaneously. For, were the right ventricle to discharge the most, as has been claimed by Colin, the blood must eventu-

ally collect in the lungs; while, if it discharged less than the left ventricle, the blood would stagnate in the systemic capillaries.

These experiments will also serve to throw some light on the time required by the blood for making one complete revolution of the body.

The method most generally accepted as giving a correct solution of this problem is that first employed by Hering, and afterwards by Poisseuille, Vierordt, and Blake: it consists in injecting a solution of ferrocyanide of potassium into one jugular vein, and then determining the time elapsing before the salt can be detected in blood taken from the jugular vein of the other side.

As determined by this method, the time required for making the complete circuit of the body in the dog was 15.22 seconds (Vierordt); or, as expressed as a general law, the circulation requires for its completion, in all groups of mammals, twenty-seven pulsations of the heart (Vierordt).

Now, taking the most favorable circumstances for the testing of the truth of this statement, it is seen in Experiment IV. that the greatest amount thrown out at any one contraction was 12 c.c., and the weight of the dog was 15.5 kilo. If we accept the statement of Heidenhain, that the amount of blood in the body of an average dog is one-thirteenth of its body-weight, the animal experimented on in the above instance must have contained about one kilo of blood, or, the specific gravity of blood being 1050–1060, from 950 to 940 cubic centimetres of blood. It would therefore require seventy-nine or seventy-eight pulsations of the heart to propel the entire amount of blood once around the circuit of the body; the pulse being 110 in a minute, it would require, therefore, forty-three seconds to complete the circulation in the dog.

It should, moreover, be noticed that the example taken is the one in which the largest quantity of blood was propelled at any one time, and is therefore most favorable to the statement of Hering.

It is evident, therefore, that in the method employed by Hering, although it has given tolerably constant results in the hands of different observers, there must be some factor concerned other than the mere mechanical propulsion of the blood. Some experiments of Poisseuille seem to throw some light upon this point. He found, as quoted by Matteucci, that there was a marked difference in the time required by different substances to complete the circuit, even though they were given in quantities small enough to be without effect on the force or number of the heart's pulsations. Thus, while the ferrocyanide of potassium was detected in eighteen seconds in the horse, when a little alcohol was added to the ferrocyanide the latter did not escape from the opposite jugular vein until after forty to forty-five seconds. It seems probable, therefore, since we know that different liquids brought into contact will diffuse into one another with different degrees of rapidity even when the masses of the liquids are at rest, that Hering's results are partly to be attributed to the physical laws of diffusion, and not solely to a mechanical propulsion of the blood.

Moreover, it is well known that in all cases of movement of fluids in tubes, the portions of the fluid in the axis of the tube move with a higher velocity than the portions nearer the walls of the tube. By Hering's method, however, it is this highest velocity alone which is measured; his results cannot, therefore, be applied to the solution of the question as to how often the entire mass of blood passes through the heart, or, in other words, how often in any given time the venous blood becomes arterial.

Since writing the above, my attention has been called to an abstract of a paper by Drs. W. H. Howell and F. Donaldson, Jr.,* on the "Maximum Volume of Blood sent out by the Left Ventricle in a Single Beat, and the Influence of Variations in Venous Pressure, Arterial Pressure, and Pulse-Rate on the Work done by the Heart." In this paper they give the results obtained on the heart of the dog isolated after Professor Martin's method. Some of their conclusions seem to be at variance with the results described in my paper; but, as the detailed account of their experiments has not yet been published, this discrepancy may be merely apparent.

INDEX MEDICUS FOR 1884.—The publisher announces his intention of carrying on the *Index Medicus* for one year longer.

* Proceedings of the Royal Society, No. 226, 1883.

A READY METHOD FOR THE DETECTION OF THE BACILLUS TUBERCULOSIS.

BY M. B. HARTZELL, M.D.

SINCE Koch first announced the discovery of the bacillus tuberculosis, methods for its detection have multiplied rapidly. Most of these methods, however, are more or less complicated, are uncertain, and require too much time in their execution to be of use clinically.

On account of its simplicity, and of the short time required to execute it, I wish to add another to the many staining processes already in use. This process appears to me to possess decided advantages over all others with which I am acquainted: by means of it the sputa of patients who are supposed to be tuberculous can be easily and rapidly examined, and the bacilli are so deeply stained that if any are present in the specimen under examination they cannot be overlooked, if ordinary care is used. The process is briefly as follows. A small quantity of sputum is spread as thinly and evenly as possible upon an ordinary glass slide; it is allowed to dry, which takes but a minute or two, and is then passed slowly several times through the flame of an alcohol lamp or Bunsen burner. One or two drops of the fuchsin solution, recommended by Gradle, and prepared as follows,—carbolic acid, ℥xv; distilled water, f℥ss; dissolve, and add saturated alcoholic solution of fuchsin, f℥ss,—are placed upon the sputum thus prepared, and allowed to remain from three to five minutes. The slide is now washed thoroughly with distilled water, to remove the excess of fuchsin, and the stained sputum completely decolorized by means of a saturated solution of oxalic acid. It is again thoroughly washed in distilled water, after the decolorization, and allowed to dry: it is now ready to be mounted in glycerin or balsam for examination. With a power of five hundred or six hundred diameters the bacilli will appear as brilliant red rods, no staining of the background being necessary.

In all other methods with which I am familiar, the decolorizing agent employed is dilute nitric acid; but this, besides being disagreeable to handle because of its corrosive and staining properties, is apt to remove the color from the bacilli too, unless great care is taken. Oxalic acid, however, seems to leave the dye untouched in them.

To render the process still clearer, the different steps may be arranged thus:

1st. Spread the sputum upon the slide, dry, and pass through the flame of the lamp.

2d. Stain with the fuchsin solution three to five minutes.

3d. Wash in distilled water.

4th. Decolorize with oxalic acid.

5th. Wash again thoroughly in distilled water, dry, and mount in glycerin or balsam.

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REPORT ON RECENT PROGRESS IN GYNÆCOLOGY AND OBSTETRICS.

DEVELOPMENT OF UTERINE MYOMATA.

KLEINWACHTER* considers that the process of development of uterine myomata is not yet satisfactorily known: it is not probable that it is the result of hypertrophy of muscular fibres, but the round fibres are transformed into fusiform fibres which cannot be distinguished from muscular fibres. The matter of inquiry is to learn if the round cells are derived from the connective tissue or from the division of the cells of the muscular tissue. Small tumors are better for study, because in the large ones the development is complete, or else it is difficult to find points in which it is in progress. The author has found pure myomata or fibro-myomata in which the connective tissue is in excess of the muscular tissue, but he has never found a pure fibroma. The fasciculi cross each other in every direction, and lie closer together than in the normal state, and the cells and nuclei are a little larger and longer than in the non-gravid uterus. The myoma is generally distinctly separated from the neighboring tissue because of its connective-tissue capsule, or the direction which the fasciculi of its structure follow.

The author believes that many of these tumors are arrested in their development, although it cannot be claimed that this arrest is final. In case of multiple tumors, each has its capsule of connective tissue, or a thick layer of normal muscular tissue. Kleinwachter has never seen new vessels

* Zeitsch. f. Geb. und Gyn., ix. 1; Annales de Gynécologie, December.

in a myoma; but he has seen them in a fibro-myoma.

CASTRATION OF WOMEN.

In a recent paper by Tauffer,* the author presents the following conclusions:

1. This operation, made with proper precautions, does not present great dangers; the inevitable mortality is only ten per cent.

2. Make it under spray: close the abdomen; drainage only exceptionally necessary.

3. The patient's being near the menopause is not a contra-indication, for it cannot be predicted when the menses will finally cease.

4. It is not possible to follow the rule of Hegar,—that is, that the ovaries must be accessible to palpation.

5. Double ovariotomy is to be done, even when the second ovary is not diseased, save in exceptional cases.

6. Remove the oviducts if they are diseased.

7. Hystero-epilepsy is curable by castration.

8. The symptoms of which the association has received the name of hysteria are in many cases to be attributed to an ovarian malady.

9. The question of ligating large nutritious vessels passing to a fibro-myoma is worthy of consideration.

10. As to prognosis, it is probable that the menopause will promptly follow the operation, except when the neighboring organs have become inflamed; such inflammations delay the critical age.

11. The result cannot generally be judged until some months after the operation.

12. The question of the influence of diseases of the genital organs upon certain psychoses is matter of study.

13. The same is true as to the effect of castration upon the psychoses.

14. For our instruction, it is desirable that the cases of castration may be classified according to the plan proposed by Hegar.

THE INFLUENCE OF PUERPERAL EPIDEMICS UPON THE TIME OF LABOR.

M. Hervieux† made a communication to the Académie de Médecine, in which he remarks that a certain number of pregnant women are susceptible of contracting a puerperal septicæmia which sometimes causes premature labor, and this septicæmia may be developed, with all its characteristics, after the premature expulsion of the fœtus. But these familiar facts were regarded as exceptional. On the other hand, Hervieux holds it to be exceptional that when a pregnant woman is in an infected atmosphere she is not infected. He had been led to this conclusion by statistics taken at the Maternité during twelve years. By these statistics it is shown that premature labors were in proportion to the intensity of puerperal affections. With improvement in the sanitary condition, the number of premature labors and of maternal deaths underwent a corresponding diminution. In his treatise on abortion M. Garimond has asserted infection and contagion as very probable causes of abortions, without, however, giving the clinical proof, and this proof is now made by Hervieux. The longer a pregnant woman sojourns in an infected medium, the greater the liability to premature labor; and therefore in a time of an epidemic every maternity should be closed, and, no epidemic existing, pregnant women ought not to be admitted until as near as possible to labor.

A theoretical consequence is obvious, and that is that the placental wound is not the avenue of entrance of the puerperal poison, or at least the sole way by which it enters. In the pregnant woman the uterine cavity is closed, and consequently there is no internal surface comparable to a wound, no gaping mouths of vessels, and therefore no point accessible to the septic principle.

LESSENING THE DURATION AND THE PAIN OF NATURAL LABOR.

Dr John Morris, of Baltimore, discusses‡ the question as to means that can be judiciously used to shorten the term and lessen the pain of natural labor. Dr. Morris advises, when the first stage of labor is slow, and interference advisable from the delay, or from other cause, detaching by means of the finger the membranes from around the cervix. If premature rupture of the membranes occur, dilate the os with the finger, carefully swept round it during a pain. Where delay in dilata-

* Zeitsch. f. Geb. und Gyn., ix. 1; Annales de Gynécologie, December.

† Archives Générales, December.

‡ Journal of the American Medical Association.

tion is caused by rigidity of the os, morphia hypodermatically, or opium by the mouth. In unequal spasmodic contractions, use Braun's colpeurynter. If, the os being moderately dilated, the cervix is narrowed like a band, use Barnes's dilators.

According to Dr. Morris, though the os may be pretty well dilated, labor may be delayed by the firmness, dryness, and want of distensibility of the vagina: in this condition he advises copious injections of hot water, and, if this should fail, introduce a cotton tampon saturated with glycerin and lard. If inertia is present, one or two drachms of fluid extract of ergot are given; when there is arrest of the head from an occipito-posterior position, the forceps is needed. When the head is in the pelvic cavity, and the os dilated, it may be, only to the size of half a dollar, and the labor is lingering, rupture the membranes, draw the os forward during pain, and use strong external pressure. The author remarks, "Ergot is not generally necessary in this condition, but if the pains are ineffectual its administration is most beneficial,"—advice the latter part of which, the reporter begs leave to suggest, almost justifies the radicalism shown by some of the members of the American Gynæcological Society at its last meeting, who thought it would be a blessing if ergot were banished from obstetric practice. When the head has descended to the perineum, and the labor lingers, ergot and external compression; but if delivery does not take place speedily, the straight, Beatty forceps.

ATTENTION REQUIRED WHEN THE LOCHIAL DISCHARGE IS NORMAL.

A very interesting paper by Dr. Eustache, entitled "Études sur les Lochies dans l'État normal et les États pathologiques," has recently appeared in successive numbers of the *Archives de Tocologie*. We present an abstract of the directions Dr. Eustache gives as to the care of the lochia when this discharge is normal:

The accoucheur ought to inquire as to the number of napkins used since his last visit: he learns the abundance, the color, and the odor of the lochia. If the flow is too abundant, if blood continues beyond the third or fourth day, and especially if there be a decided odor to the discharge, his attention is to be directed to modifying these characters.

The genital parts are carefully washed after delivery; this washing to be done with simple warm water, or with water containing a small quantity of carbolic acid. A napkin is placed over the vulva, and at the end of an hour changed for a clean one, and then a little less frequently as the flow lessens. Each time that the nurse removes the napkin she must be careful to wipe thoroughly the external parts, so that they may not remain soiled; she ought also to separate the labia, so as to free the vulval orifice of any obstructing clots. Morning and evening she will complete this toilet of the external genital parts by washing them with warm water, or, better, with warm water made aromatic by the addition of a little vinegar or cologne water.

The accoucheur ought to see that there is a free discharge of the lochia, guarding against the retention of clots in the vulva or in the vagina, and direct that the napkin shall not be so closely applied that it acts as a plug. Position ought to be made to intervene to assist the lochial flow. Except in some cases of post-partum hemorrhage, or of threatened syncope, it is always preferable for the patient to be in a slightly-inclined position; that is to say, let the head and upper part of the trunk be raised somewhat by pillows, for the purpose of favoring by gravity the flow of the lochia, thus avoiding their accumulation and remaining in the vagina. The patient may usually be allowed to turn from one side to the other, either in eating or in nursing her infant. From the second day she may take her meals in a sitting position: the vagina will thus be naturally emptied of its contents.

It ought to be remarked that the most dependent part of the genital organs is not the vulva, but rather the deep part of the vagina corresponding to the neck of the uterus; and that the neck is very frequently the seat of rents, and if it is constantly bathed in the lochia it may be the medium of septic absorption. In surgery we use drainage-tubes to favor the flow of pus; in obstetrics the parts are sufficiently disposed to spontaneous drainage, provided absolute immobility is not observed. Vaginal injections are not employed unless the lochia have a decidedly bad odor. Dr. Eustache then uses carbolized water; but he remarks that he looks upon the injection as detersive rather than antiseptic.

If the flow does not cease to be red the third day, especially if it continues red the fourth and the fifth day, it is necessary to find out the cause; and generally it will be found to depend upon imperfect retraction of the uterus. Under these circumstances, ergot is to be given by the mouth; ergotin hypodermatically is objectionable, for it may cause erysipelas. It is almost a rule that the first getting up, especially when it takes place about the seventh or the eighth day, is followed by a return of the red flow. This phenomenon tells us that the retraction and restoration of the uterus are far from being complete, and is an indication for rest in bed.

When the lochial discharge is prematurely diminished or suppressed, this condition is not in itself an indication for therapeutic means. While this suppression is not to be regarded as a primary morbid state, and therefore efforts to recall the flow are to be condemned, therapeutics should be directed to the different morbid states, to the various local or constitutional maladies which may exist.

Retention of the lochia may result from spasmodic closure of the os uteri, or from œdematous swelling of the labia majora and of the nymphæ. An examination with the finger will readily detect the retention from the latter cause, and the flow is thus readily restored.

NON-PUERPERAL PELVIC LYMPHADENITIS AND LYMPHANGITIS.

Dr. Mundé* has an interesting paper having this title. He rests his diagnosis of the affection described on the shape, size, tenderness, mobility, and number of the nodules, on their relation to the uterus (not being directly connected with it, but still not entirely independent of it), on a condition of the uterus which might readily produce inflammation or enlargement of the adjacent glands, the mobility of the uterus, and, finally, on the acknowledged presence of some lymphatic glands and numerous lymphatic vessels in the connective tissue surrounding the supravaginal portion of the neck. Dr. Mundé states that the points he desires to make in his paper are the following:

1. That an inflammation of the pelvic lymphatic glands and vessels occurs in the non-puerperal state far more frequently than is generally supposed.

2. That such inflammation generally becomes chronic, and very closely simulates so-called chronic pelvic peritonitis and cellulitis, both in symptoms and in physical properties.

3. That such lymphatics in a state of chronic inflammation possess certain characteristic features which permit their recognition by the examining finger.

4. That this inflammation may either depend on and be secondary to uterine disease, or be entirely confined to the lymphatics and be apparently idiopathic.

5. That the treatment resembles that of chronic pelvic inflammation, with one exception,—the primary necessity for the removal of the focus of irritation, if such exist, before the lymphatic inflammation can be permanently removed.

INFLUENCE OF DIPHTHERIA UPON PREGNANCY.

Dr. Auguste Ollivier,† at the conclusion of a paper upon this subject, observes that diphtheria may be a cause of abortion, and therefore when it occurs in a pregnant woman may have exceptional gravity. The abortion is due, in a large number of cases, not to asphyxia or to the high temperature of the blood, but to an alteration of this liquid which, though badly defined, cannot be disputed. The possibility of abortion, with its dangers, therefore, suggests the importance of isolation when pregnant women are in a ward where diphtheria occurs.

OBSERVATIONS UPON THE PATHOLOGY OF PREGNANCY-VOMITING.

Dr. Griswold,‡ after considering the various theories of the vomiting of pregnancy suggested by Hewitt, Bennett, Sims, Copeman, and others, holds that the opinion that this disorder is caused by uterine deviations from a healthy condition is not correct. He regards the fact of pregnancy as the cause in the vast majority of cases, and says that "the practitioner who loses sight of this old view in his study of the newer lights may be led into unnecessary errors of surgical treatment in a great many cases which would be much more sensibly cared for by easier and more agreeable means."

T. P.

* American Journal of Obstetrics, October.

† Archives Générales, October.

‡ Louisville Medical News, December.

TRANSLATIONS.

THE ANATOMICAL CAUSES OF HERPES ZOSTER.—Lesser reports the microscopical appearances found in the post-mortem examination of a third case of herpes zoster, in which he was able to confirm the statement, based on two previous cases, that the disease is a consequence of nervous disturbance. In this case, during life the herpes was situated in the distribution of the fifth, and partly of the fourth, right intercostal nerves. On post-mortem examination, the fifth intercostal nerve was strikingly thinner than normal, flattened, and of a transparent reddish-gray color, forming a strong contrast to the white of normal nerve-tissue. Similar changes were found in the fourth intercostal nerve, but less marked than in the case of the fifth. Microscopic examination showed that numerous fibres of the fifth intercostal nerve had undergone degeneration, and that the fifth intercostal ganglion had in its upper half lost its normal structure, the nerve-elements being replaced by connective tissue. Similar changes, though less marked, were found in the ganglion-cell and fibres of the fourth intercostal ganglion, though no degenerated fibres could be found in the corresponding nerve.

In relation to the connection between the nervous lesions and the skin affection, the author believes that, either through the irritation of certain nerves or from their loss of function, microscopic points of necrosis form in the deeper layers of the skin and then extend to the surface, and that reactive inflammation follows as a consequence of this necrosis.—*Centralb. f. d. Med. Wissen.*, December 1, 1883. S.

THE ETIOLOGY OF TABES DORSALIS.—In the study of his second hundred of cases of tabes dorsalis, Prof. Erb makes the following statement as regards the etiology of this disease. Of these cases there was only nine per cent. in which previous syphilitic infection could not be proved; with positive secondary syphilitic symptoms, sixty-two per cent.; with chancre, but without definite secondary symptoms, twenty-nine per cent.; or, in all, ninety-one per cent. of these cases possessed a syphilitic history. In relation to the time elapsing after syphilitic infection before the appearance of tabes, he found that in sixty-nine of these ninety-one cases tabes appeared within fifteen years after infection, in fifteen cases in the following five years, and in only six cases later than this. In a control examination of twelve hundred men over twenty-five years of age who had no symptoms either of tabes or of syphilis, he found 77.25 per cent. uninfected and 22.75 per cent. infected in early life. From this it follows, according to the author, that almost no one becomes tabetic who has not first been syphilitic. Of thirteen tabetic females, four were free from syphilis, in three it was doubtful, four had had positive secondary syphilitic symptoms, one probably syphilitic, and one a chancre. From the above Prof. Erb concludes that syphilis is one of the most frequent causes of tabes dorsalis, if not the most frequent.—*Centralb. f. d. Med. Wissen.*, December 15, 1883. S.

WOOD-WOOL AS A SURGICAL DRESSING.—Under this name Bruns recommends as a surgical dressing the fine fibrous scrapings obtained from wood-polishing factories. For surgical purposes the scrapings of white pine are the best. When in the fresh condition it contains from sixty-five to seventy-five per cent. of water, and it must, therefore, before use be pressed, powdered, and dried. As prepared by Hartmann, in Heidenheim, it is extremely soft, very porous, and fulfils all the requirements of a capital dressing for surgical cases. One of its great advantages is its immense power of imbibing fluids, it being able to absorb twelve times its weight of water, while the turf recommended by Neuber takes up only eight times its weight, and even then requires to be first moistened. It is, moreover, extremely cheap, fresh, absolutely clean, of a white color, and is indeed an ideal "dry dressing." It may also readily be impregnated with the different antiseptics: of these the sublimate is recommended, and is furnished by Hartmann containing one-half per cent. sublimate and five per cent. glycerin. This preparation is now exclusively used in the Tübingen Surgical Clinic, and is preferred by Bruns to carbolic acid or any other antiseptic.—*Centralb. f. d. Med. Wissen.*, December 15, 1883. S.

THE USES OF IODOFORM IN GENERAL SURGERY.—The report of the service of Prof. von Mosetig-Moorhof (*Bericht des k. k. Krankenhauses Wieden vom Solarjahr* 1882) shows that during the last five years

he has treated altogether seven thousand cases with iodoform, and he states that he can see no reason for giving up its use. He has sought in vain for toxic symptoms in any of his cases. He uses it as (1) a powder, *not* in crystals, sometimes employing (2) iodoform gauze (50 per cent.), and in the form of (3) an emulsion composed of from 5 to 25 parts of iodoform, 50 of glycerin, 10 of water, and 0.25 part of gum tragacanth. The latter is especially useful in punctured wounds and complicated fractures. In thirty-five such fractures there was only one which presented septicæmic symptoms. He also uses (4) iodoform crayons, and (5) iodoform solution for parenchymatous injections. The solution he uses is as follows: iodoform, 1.0; benzine, 9.0; paraffin (liquid), 10.0; oleum gaultheriæ, gtt. ij. This is especially serviceable in lymphadenitis and parenchymatous struma. Local tuberculous processes can be treated by this solution after all the diseased parts have been carefully removed. In a table of eighty capital operations treated by iodoform dressings remarkably good results are shown.—*Centralblatt für Chirurgie*, No. 48.

Treatment of Erectile Tumors in Children.—After unsatisfactory experience in the treatment of erectile tumors in children by means of vaccination, thermocauterization, and cauterization with the Vienna paste, Dr. de Saint Germain recommends as the most satisfactory the injection of the tumors with Piazza's solution. This consists of chlorinated soda, fifteen parts, liquor ferri sesquichloridi (thirty per cent.), twenty parts, and water, sixty parts. Through this injection a coagulum of the blood in the tumor is produced, and the growth shrivels up. It is necessary to be careful that none of the injection enters the normal tissue, or violent inflammation will be produced. Occasionally, however, this method of treatment will fail: resource must then be had to some caustic paste, or to the antiseptic excision of the tumor.—*Centralb. für Chirurgie*, October 13, 1883.

Tuberculosis of the Vault of the Palate.—Out of three hundred to four hundred cases of tuberculosis which come annually to Guttmann's clinic, he finds that only one per cent. is affected by tuberculosis of the vault of the palate and its adnexa. Lublinski has met with only ten cases out of a total of sixteen thousand patients seen in five years; although twenty per cent. of all of these were affected by disease of the air-passages, and it was always in those patients in whom the tuberculosis of the lungs and larynx was very far advanced that he saw this complication. Guttmann states, in answer to the possible criticism that many cases may escape unnoticed, that this is scarcely possible, on account of the pain caused by the disease, and especially the difficulty in deglutition.

As to the etiology of the affection, these two authors endorse the opinion of Rindfleisch that tuberculosis of the larynx is occasioned by the expectoration, and in like manner is the vault of the palate affected. As a primitive disorder the disease does not exist.—*Deutsche Med. Zeitung*, No. 19, and *Revue Mensuelle de Laryngologie, d'Otologie et de Rhinologie*, December.

The Microbe of Hydrophobia.—At the Academy of Medicine (November 27) Pasteur referred to his discovery, in the saliva of a child who had died of hydrophobia, of a microbe susceptible of cultivation and of inoculation in guinea-pigs, causing their death, and stated that after culture-experiments it could be introduced into rabbits without fatal results. The experience of Pasteur has shown in regard to microbes in general that a disease-virus is not a morbid entity, and although virulence belongs as a property to some species of micro-organisms, it is modifiable essentially: it can be increased, it can be reduced, and each of these states is capable of fixation by culture. He stated that microbes which are virulent in one animal may be harmless in another, and the virulence of the poison may be very much modified by its passage through several animals of the same species.—*La France Médicale*, No. 64.

Local Treatment of Erysipelas.—An epidemic of fifty cases of erysipelas gave Polyányi an opportunity of making comparative observations of different methods of treatment. The best results were given by applications of freshly-prepared sulphurous-acid solution, made carefully every two hours over every part of the affected surface. J. Andeer prefers a fifty to eighty per cent. ointment of resorcin.—*Wiener Med. Presse*, Nos. 22 and 23.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 26, 1884.

EDITORIAL.

REMARKS UPON MEDICAL EXPERT TESTIMONY SUGGESTED BY THE DWIGHT CASE.

THE prominence which has been given to medico-legal questions in the recent case of Colonel H. J. Dwight, of Binghamton, warrant a reference to it here in order to emphasize a few remarks upon medical experts and the character of expert testimony. An extended history of the case will not be required by our readers, who are familiar with the details as they have appeared in the public prints: stated in its briefest form, it was that of a man who as a result of large speculations had become a bankrupt, and who, while supporting his family extravagantly upon borrowed money, had made application to nearly every life-insurance company in the United States for insurance upon his life, and, in fact, had actually obtained policies aggregating nearly four hundred thousand dollars, upon which he had paid the first quarterly premium with money borrowed for the purpose. As he was without income, it happened very opportunely that he died rather suddenly on November 15, at a time when he was alone in his room. The death, indeed, was timely, because he had just been successful in passing through bankruptcy, and also because in a few days the second quarterly instalment would be payable, which he had no funds to meet, and failure would involve forfeiture of the money which he had already paid. The insurance companies contested the claim on account of fraud, on the ground that Colonel Dwight had committed suicide; but it was also in evidence that his replies to some of the questions in his application for the policies were false and misleading. The original theory of the plaintiffs was that the man had killed himself with gelsemium; but the experts were agreed in attributing death to strangulation with a cord, marks of which were plainly demonstrable both at the first post-mortem and at the second, performed four months later. The dissenting testimony (as we gather from a critical review of the case by Dr. H. C. Wood in the *Medical News*) was confined practically to Drs. Hyde, Burr, Chittenden, and Orton, Mr. Ayres, the undertaker, and two other non-medical gentlemen, who believed the creases in the neck to have been caused by forcibly flexing the head after death, when placing the body in the ice-box. None of these medical gentlemen, however, who were called upon the part of the plaintiffs (*i.e.*, executors of Mr. Dwight), ventured to assign a natural cause for the death, or to deny the alleged strangulation. Dr. Swinburne, who made the autopsy, Drs. Porter, Bridges, and Sherman, and the experts called in by the insurance company to investigate the theory of supposed poisoning,—Dr. Austin Flint, Jr., of New York, and Drs. Roberts Bartholow, Theodore G. Wormley, Isaac Ott, and H. C. Wood,—were unanimous in the conclusion that death had been due to strangulation, probably by the patient hanging himself to the bed-post. Notwithstanding the able and positive medical testimony, the verdict was given against the life-insurance companies, who have since appealed the case in the interests of public morality and as a measure of protection to the funds belonging to the other policy-holders, of which they are the trustees.

It was peculiarly unfortunate that, before the case had been finally decided, an editorial attack should have been made upon the expert testimony in the *Medical News* (December 22), which claims that the view held by the experts at the trial was erroneous, and that death was caused by the

combined effects of disease and large doses of morphia administered by the attending physician, Dr. Burr. The death by asphyxia was not denied, nor that "he suddenly and without premonition sunk away and died;" but death is attributed to the effects of morphia, in the face of the facts that he had been doing well and talking rationally—according to the testimony of Mr. Hull, who sat up with him—up to within a few moments of his death, and that his heart-tissue was pronounced healthy in the report to the court.

It would be very unusual, to say the least, to find a *hypodermic injection* of morphia, given not later than half-past nine in the evening, exercising suddenly, two hours later, a fatal paralyzing action upon the respiration and heart, without being preceded by any evidences of narcosis or other of the classical symptoms of morphia-poisoning, which are so easily recognized. Moreover, there was no evidence to show that the hypodermic injection was in excessive dose.

We pass without comment the reflection which the editorial alluded to casts upon the character of the attending physician, who, according to this view, made himself *particeps criminis* by contributory negligence, if not by design, as this reflection may lead to legal proceedings which will still further elucidate the peculiar etiquette of expert practice in this country.

We take this occasion to affirm our convictions that medical men who are summoned as experts do not thereby relinquish their right of independent judgment, or their freedom in declaring their views in court upon the questions submitted for their consideration by either side: due respect to themselves, and to the medical profession which they represent, should restrain them, therefore, from allowing themselves to be placed in the attitude of partisans. In declaring "the truth, the whole truth, and nothing but the truth," they are aiding the cause of justice: no obligation should be assumed that would commit them to any other course or oblige them to do less than their duty. Again, experts are selected as especially qualified to decide upon certain difficult medical questions coming up for consideration in the course of the case. Does it not seem inconsistent with this view, as well as undignified, for eminent men, who differ in their views, to appeal to the profession at large, or seek a rehearing of the case at the bar of public opinion? The world has not yet recovered from its disgust at the character of the testimony and behavior of the medical experts at the Guiteau trial, in which scenes occurred that have reflected lasting discredit upon American medicine. The public will begin to have more respect for the medical professsion when the leading members of the profession show more respect for themselves.

REMARKABLE RESTORATION OF VISION FROM INJURIES TO THE HEAD.

THE case of Mr. Maybee, of Long Island, has attracted considerable attention and has led to some discussion. The patient had been a sufferer with spinal disease for fourteen years, and became totally blind about a year ago. He was an invalid, and advanced in years. While sitting in his chair one afternoon last November, he was beaten about the head by burglars, who also murdered his wife and daughter. He was naturally under great excitement at the time, and lost considerable blood from scalp-wounds. Strange to say, a few days later he commenced to recover his sight, until he could distinguish different individuals, although vision was not quite clear. His general condition was fair, and his pulse good.

The opinion of Dr. Knapp, as published in the *New York Herald*, is that the patient might have had advanced cataract, and that, the fastenings of the cataractous

lens becoming broken up by the blows upon the head, his vision was partially restored. The newspaper suggestion that the injuries had any effect upon the optic nerve is rejected as untenable.

That loss of vision, with the appearances of atrophy of the optic nerve, may be due to sudden fright or shock, is generally known. Central scotoma likewise may be developed from inanition during an enfeebling general illness, and also from the use of tobacco. Now, since these conditions have been relieved by various methods of treatment, and in some cases vision has been restored quite unaccountably, we should not reject too positively the hypothesis of the combined influence of concussion, local hemorrhage, and cerebral excitement in restoring vision in the case under consideration.

It is true that advanced spinal disease is apt to be accompanied by optic neuritis; but, in the absence of a record of the case previous to the injury, it cannot be said positively whether the eye-symptoms were complications of the spinal affection or existed independently of it. Before denying that any given agent can be useful in benefiting optic atrophy, it would be well to try and explain why strychnia is sometimes of such signal value. Dr. David Webster, of New York, in a communication to *The Planet*, reports a case of this kind in a stable-man who was so blind that he had to be led to the hospital, but who, under the use of strychnia hypodermically, recovered the sight of both eyes so as to be able to read fine print, the appearances of atrophy of the optic nerve being retained, although sight was restored. Other cases are reported cured by electricity and by electro-magnetism.

Dr. Webster stated that the blows upon the head of Mr. Maybee must have powerfully affected his nervous system, and to this shock and to the sudden intracranial changes induced by his great fright and mental excitement, in his opinion, may be attributed the change in the nutrition and conducting power of his optic nerves, and the partial restoration of sight.

DISASTROUS CONSEQUENCES OF NERVE-STRETCHING.

THE dangers of the purely empirical treatment of obscure nervous disorder by the process known as nerve-stretching have been pointed out recently by several observers with sufficient emphasis to lead to caution in the practice of a method which has no scientific basis, often fails to relieve, not infrequently inflicts injury upon the patient, and may even be followed by fatal results.

Westphal reports* the case of a man, aged 31 years, who suffered from a slowly-progressive loss of power of the lower extremities, associated with spastic phenomena, involuntary contractions, increased reflex irritability, exaggerated knee-reflex, and disturbances of sensation. This last symptom was particularly marked as regards the perception of differences of temperature. It extended over the legs and body, and varied at different times. After vigorous stretching of the right crural nerve, the muscular stiffness and knee-reflex disappeared, the latter temporarily, while incontinence of urine and fæces, contracture, and bed-sores were added to the other symptoms. These symptoms gradually increased in severity, and, after an intercurrent right-sided hemi-anæsthesia and ataxia, death occurred three years after the operation. On post-mortem examination, circumscribed points of degeneration were found in the brain, pons, and medulla oblongata, with diffuse softening of the cerebral and dorsal portions of the spinal cord (most marked in the middle dorsal region), with multiple points of degeneration in the right half of the lumbar cord. The process, therefore, was one of chronic circumscribed cerebral degenera-

* Centralb. f. d. Med. Wissen., December 1, 1883.

tion, associated with diffuse spinal degeneration; and the author believes that the disease in the right half of the lumbar cord was without doubt a consequence of the stretching of the crural nerve.

The author also reports a case of spastic spinal paralysis, in which nerve-stretching produced a temporary improvement in some of the spastic phenomena, without, however, resulting in any perceptible permanent benefit.

LEADING ARTICLES.

THE NORTHWEST AS A HEALTH-RESORT.

IN Dr. Wood's article on "The Southwest as a Health-Resort" are presented claims that are equally shared by some sections of the Northwest, notably Montana. It is within the dry belt of the Rocky Mountain regions, and in this particular has possibly the same influence that Texas has, being quite as dry, and moderately elevated. There are here two seasons wherein are frequent rains, one of four to six weeks in late spring, and another of one to two weeks in fall, corresponding to the equinox of the Eastern States. Infrequent showers occur during the year, and snows during the winters, though often a whole season passes without enough to make sleighing; this, of course, in the less elevated sections, for on some high plains and on the mountain-ranges are deep snows throughout the winter. This section of the country is, strictly speaking, a desert land, as defined by the statists, where the farmers must irrigate to raise crops,—a land where dew never falls, where one can lie or sleep on the ground without taking cold, and where dust follows the traveller at all seasons alike.

The amount of rain-fall, as registered in the Helena signal-office for 1882, is 6.8 inches, which includes the melted snow.

The dryness of the atmosphere here is appreciable in every-day life. The dead bodies of small animals, such as cats, dry up with little or no inconvenience attending disintegration. Before our town was incorporated, their carcasses were never carted away, and in alleys and dark places they were often a stumbling-block. The hunter, resting beneath a tree, may hear the creaking joint of the Sioux Indian—the *good Indian*—resting on the branches above, but no tainted atmosphere directs his attention to the mausoleum. Indeed, it seems to be a country where one may dry up and blow away.

The average altitude of Montana is three thousand feet, while that of Colorado is seven thousand, of Wyoming six thousand, of New Mexico five thousand six hundred. This slight elevation, with the warm western winds of the Japan current, gives us a comparatively mild climate. "The isothermal line of 50° F., passing through Harrisburg, Cleveland, and Chicago, runs from southwest to northeast through the Territory. Our mean temperature is that of Pennsylvania and Central Ohio."

There are severe and sudden changes; but can we say less of Texas? Are we sure these changes are deleterious to health? I have heard visitors to Lower California complain that the regular, even temperature there was tiresome and monotonous and caused one to grow languid and dull.

Professor Wood compares Texas and Colorado, and justly pronounces in favor of Texas. The elevation of Colorado is too great. The result is, cold severe winter; but a more serious effect is that the great high spurs and peaks of its mountains are continuously covered with snow, and during the summer sunshine this snow melting loads the atmosphere with moisture, the evaporation creates such conditions that regular daily breezes sweep down over the plains, and the population is injured rather than benefited. Established lung-irritation is increased, and nasal catarrh is made common. Montana is free from this condition, and allows nothing in favor of Texas. Nor is the difference in elevation less in our favor. Coming from the sea-level, one finds his lung-capacity a little wanting in our rarefied atmosphere, but in time his lungs grow up to the requirement and no extra work is called for. The travelling clothier tells me the chest-measure of the old-timer is very positively above that of the man in the States, and percussion over the heart's area reveals so much covering of lung-tissue as to make the usual dulness almost wanting. So striking is this to the pilgrim doctor that he hesitates to accept such order of things.

In cases that have a loss of lung-tissue so

great as to reduce the supply of necessary oxygen, it is questionable if benefit is afforded by coming to an elevated region. Some sudden deaths attend such patients coming here; yet we have witnessed some such remarkable recoveries as to make us slow to discriminate. As to a special proneness to hemorrhage, it is purely theoretical, for it does not exist. In no branch of practice or disease is hemorrhage more common in our town than in the States. I was taught, and saw demonstrated by apparatus, that patients with emphysema of the lungs wanted condensed air: up here in our rarefied, sparse air we seldom meet the disease, while asthma invariably deserts the patient on the route.

In the cases of inherited consumption the positive lung-growth acquired in our elevation is one of the special favors bestowed. The numerous cases that life on the plains has cured are due more to the increased lung-expansion and final growth than to simple exercise and fresh air.

It seems established as a fact that dry air or a dry climate is favorable for lung-diseases. It is likewise assumed that a warm climate is better than a cold one. This is not proved. Do not consumptives complain of hot weather, of languor and debility? Do not consumptives who reside in and about Philadelphia die most commonly close on an exhaustive summer at "the falling of the leaves"? Does real cold weather produce any ill results, or are the patients any worse during such terms? Our mortality list shows, for the three past years, one consumptive death for January and December to four deaths for August and July. Can Dr. Wood on theoretical or practical grounds advise that the comfortable winter weather and hot summer weather of Texas are better than the cool comfortable summer and the cold winter of Montana? In the mortality report of Helena, of six thousand inhabitants, for 1882, I find that during July, August, and September there were two deaths from all causes; none of children or from disease due to heat.

January and February had, respectively, twenty-four and twenty clear or fair days, such as invalids could exercise in: our roads being almost always dry, they can go out at all times. If it is not an established fact that warm dry air is better for consumptives than cold dry air, I should like to invite the attention of the profession to the Northwest as a health-resort offering more inducements than the Southwest. I do not include in this Minnesota or any of the Northwestern States,—there they have a moist atmosphere, and severe storms and winters,—but limit my call to Montana. We have only in part the diseases of the States, and with many modifications; no malaria, no asthma, little or no summer complaint; while we have hot springs for hygienic use, hunting for amusement, and mining, farming, and cattle-raising for employment. A *Helena Herald* item, of some numbers back, reads thus: "Dr. Blake returned from a nine days' hunt with twenty-two deer and one grizzly bear." In the suburbs of Helena is a hot spring of unlimited capacity at a temperature of 150° F., and identical with the Arkansas Hot Springs in chemical analysis; thirteen miles distant is a similar spring; forty miles is a famous hot spring; sixty miles is a hot sulphur spring; and thus throughout the Territory.

The Board of Health furnishes for Helena, Montana, from October, 1880, to April, 1883 (two and a half years), the following: Population, six thousand; number of deaths from all causes, one hundred and seventy-four; number of deaths from consumption, thirteen; mean age of deaths from consumption, forty-one years.

We are not entirely free from the disease, but the actual death-rate, I am sure, is less than the table. One case given was death from old age and intemperance, another was strictly syphilitic, one from strangulation due to an abscess of the lungs, one, tubercular laryngitis. One of our physicians died upon whom judgment was pronounced twelve years ago by eminent London physicians. Experience confirms a long-formed opinion that Montana Territory offers more inducements as a resort or home for consumptives than any other section. Our geographical position needs much allowance. One of our dailies, speaking of the severe snow-storms four weeks ago in Colorado, says, "Such a sad state of affairs has never existed in Montana, and there is no country, probably, in the world where the people are so free from the visitations of storm and flood, and where there is such exemption from the casualties incident to extremes of heat and cold." At this writing, December 15, the thermometer registers 25° F., and

it is one of a continuous succession of clear, sunshiny days from the 1st. Unless the winter prove to be an exceptional one, we shall have this same sunshine, clear, bright, calm days, and smooth, dusty roads, on through this month, and the next, and the next.

J. J. LEISER, M.D.

HELENA, MONTANA, December 15, 1883.

NOTES FROM SPECIAL CORRESPONDENTS.

NEW YORK.

GRAVE CHARGE AGAINST A MEDICAL COLLEGE.

SINCE the passage of the new law, the County Medical Society, through its Board of Censors, has undertaken the work of prosecuting persons illegally practising—or, rather, pretending to practise—medicine. E. C. Ripley, Esq., attorney for the Board of Censors, states in his annual report,—

"Thus it will be seen, by an examination of my report for last year and the present report, that this New York Eclectic College, within the last two years, notwithstanding the widely-published prosecutions of these men, their well-known characters, and the disgusting advertisements of some of them, has 'graduated' John Wesley Grindle, E. B. Lighthill, James Bryan, Adam Claesson, and William H. Fuller, and solemnly declared them to be fit men to practise medicine. It should be the first duty of every reputable physician to make known this shameful state of facts, and join your Board in bringing to justice men who have been engaged in this unprofessional and disgraceful affair." "This man Bryan is one of the most notorious quacks in this city. He has been connected with numberless swindles, and published far and wide in the public journals, and occupies a prominent chapter in Anthony Comstock's book 'Frauds Exposed.' His arrest by us was published in the city papers; yet, in the face of these facts, and while he was under indictment awaiting trial, he registered as *another* of the 'graduates' of the New York Eclectic Medical College."

We understand that the Board has since taken steps to have the charter of this college rescinded, on the ground of having illegally granted diplomas. In evidence of the good work done by the Board, Mr. Ripley says, —

"My observation prompts the remark that in no class of cases in the criminal courts is there as large a percentage of convictions as in the cases prosecuted by your Board; and the Board may well feel proud of this, another year's successful work, evidenced not alone by this report, but by the generous and merited support of the public press, and favorable public sentiment generally."

SANITATION.

The hands of politics seem again to have been laid upon the Board of Health, the result of which will probably be decreased efficiency in sanitary inspection. With the numerous shell-like buildings which are going up with almost lightning rapidity, certainly this is not desirable. It would not be difficult for Prof. Doremus to find plenty of walls here at the present time which would permit of the easy penetration of gases. Although the temperature very seldom goes down to zero, yet in the large majority of dwellings, especially those recently constructed, the occupants feel themselves obliged to allow the water to run from every faucet during the night, and often during the day, as a safeguard against freezing. If by accident this is neglected, the next day the plumber must be called to repair bursted pipes. No wonder, therefore, the need of greater water-supply. But, with the facilities which New York has for getting water, it might just as well as not have its streets constantly flooded, if necessary. As it is, the people who live above the second floor await the new Croton aqueduct with impatience.

DISPENSING DRUGGISTS.

Your recent editorial suggests that some steps might well be taken by the physicians of this city also towards checking the spread of life-destroying patent drugs, and that form of irregular medical practice cloaked under the uncertain terms "druggist," "apothecary," "pharmacist." On the avenues in this city one frequently sees as many as from two to three drug-stores in walking a single block. Some of them are limited to a room of about ten by twenty feet, are situated in the middle of a block for want of means to pay corner-rents, and perhaps have inscribed in golden letters on the windows the significant term "Smith's Dispensary," or its equivalent, and here ignorant people, and even some of the well-to-do financially, go for medicine that will relieve a cough, rheumatism, pain in the side, venereal trouble, etc., receiving the "doctor's" advice free, and paying anywhere from ten to seventy-five cents for the drug. These benefactors of the afflicted portion of humanity often sell a concoction said to be of their own patent, now that a revenue stamp is not required on such packages. If a patient happen to come in with a reputable physician's prescription for a bronchitis, they noise it far and wide among their customers, and put it up for every one who comes in with a similar affection. Even the better class of pharmacists repeat physicians' prescriptions without authority, and devote one-half the shop to innumerable patent medicines. R. C. S.

January 10, 1884.

PATERSON, NEW JERSEY.

THIS city has become what it is mainly through geological changes in its site in ancient times. The formation of red sandstone bears upon its surface very considerable mounds and banks of sand, the remains of ancient shores which have been greatly wasted by glacial action. Along its western side the sandstone is overlaid by a heavy body of trap-rock, resulting from intense volcanic action. This is named "first mountain," as it is the first occurring from seaward, and extends far away in a pretty direct line through the counties of Essex and Union, to the heart of Somerset. Hither from the adjacent table-land of Morris County comes the feeble stream that forms the head-waters of the Passaic River, which, keeping within this range of trap, skirts it in a northerly direction, until, at a point some miles west of Paterson, it turns directly eastward, finding its way through this rocky barrier at a remarkable rift, down which it plunges a depth of seventy feet. The walls and columns of trap which form this singular chasm, into which the water falls with wondrous power, constitute a most picturesque scene. The river then sweeps away with a rapid current eastwardly, the city rising upon both its banks. At the falls, a low dam having been thrown across the river just above, are situated the city water-works. The water is forced by steam-power to a reservoir upon an adjacent hill, very much as at Fairmount in Philadelphia. At this point, also, is placed a viaduct, which furnishes water-power to certain mills and carries water for the boilers of the great locomotive-works which are near by.

The older portions of the city are meanly built, the main object, apparently, being to secure the largest amount of returns from the smallest outlay. Many tenement-houses have been constructed during the past year on this selfish principle, the result being dwellings deficient in light, ventilation, and the means of privacy and the decencies of life. The easterly part of this city is building up in a style altogether different. Here are rising palatial houses, the abodes of the rich manufacturers and wealthy artisans, who are lavishing large sums on the construction of their homes. The inhabitants represent nearly every nationality on the face of the earth,—the French, German, English, and Irish constituting the larger portion. Its character as a manufacturing city is seen at a glance when the great manufactories pour out their living tides upon the public streets,—jostling hordes, carrying in their countenances and rude behavior the stamp of low mentality which constant manual labor, unrelieved by culture, inevitably brings.

Perhaps no city of its size in the United States is so destitute of literature and reading as this one. There is no public library of any description worthy the name. The only attempt in that direction is a motley collection of old books,—perhaps one hundred in all,—open once a week in the evening, in the basement of one of the churches. The opportunities for mutual or individual improvement to physicians are most meagre. The County Medical Society, while having upon its rolls upwards of forty names, cannot usually muster over a half-dozen members at a regular monthly meeting; and the details are uniformly uninteresting and unprofitable, consisting chiefly of routine business. All the sociability to speak of in the profession finds expression in an annual dinner at the leading hotel. The prevailing idea in the minds of most of the members appears to be business. This dominates all else. The facilities for the succor of the homeless sick and maimed consist of two general hospitals, and one infirmary for diseases of the eye and ear. The former two have been in existence about ten years, the last about one year. The St. Joseph's, or, as it is familiarly termed, "The Sisters' Hospital," was originated and is supported by a sisterhood of nuns, assisted by the Roman Catholic clergy and people. It is well located, and is large, airy, and clean. It has a staff of physicians and surgeons who attend alternately at such hours as are convenient to them. Only within the last year has it maintained a resident physician. The "Ladies' Hospital" was founded and is supported by voluntary contributions, the leading ladies of the town soliciting and raising funds for its support. It has an elevated position, with interesting views, and is kept in admirable order. The medical attendance is of the same character as that of the first-mentioned, a resident having been recently appointed. Unfortunately, at neither of the hospitals could I learn that there was any systematic record taken of the patients, the history of their diseases, or the methods and progress of the treatment. There are separate wards for medical and surgical cases of each sex, and separate rooms for scarlet-fever patients; but such diseases as erysipelas, diphtheria, and consumption are treated in the general wards. So far as I can learn, there are no books of reference in either institution,—the only medical literature available being a few text-books belonging to the residents, and a few copies of medical journals. Of the practice in the two hospitals, that of the Ladies', where I witnessed some good surgery, seemed the better. A colotomy and a cataract extraction —the last from the Eye Infirmary, which has a bed here—were skilfully performed. I was not present at any of the practice of the Sisters' Hospital, but close inquiry satisfied me that there was lack of system and thoroughness in the manner of investigating diseases, and a singularly ancient and unsatisfactory style of therapeutics.

In the line of sanitation the city has a Board of Health and an Inspector of Provisions, who are earnestly working for the preservation of the public health. They find abundant opportunity for the exercise of the functions of their office, in correcting the habits and practices of the filthy, the selfish, and the ignorant.

E. T. BLACKWELL.

CORRESPONDENCE.

HOMICIDE SECUNDUM ARTEM.

EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR DOCTOR,—I have read with much interest your editorial in the Philadelphia *Medical Times* for December 1, on "Homicide secundum Artem."

A few years ago, it happened in a New-England town that a physician attending a case of labor where a monstrosity was brought forth *decided* that the miserable child was unfit to live, and, after cutting the cord, having purposely omitted to tie either end, he allowed the child to bleed to death in his presence.

The case was reported at a meeting of the Medical Society to which this *executioner* belonged. One or two were in favor of taking active measures against such a high-handed and very unprofessional proceeding, but were somewhat held in check by reason of the opposition of a prominent member, who, if not very highly respected, was certainly much to be feared. I remember that I took the occasion to denounce such conduct not only as unprofessional but as actually criminal. You can understand that very few sympathized with me, when I tell you that upon a friend of this physician making a very slight apology for this proceeding, and extending an invitation for the Society to hold its next meeting in the town where he resided, *and to accept his hospitality and dine with him, the invitation was accepted.* A few, the writer among the number, felt that they could not, with any respect for the profession, accept the invitation under the circumstances, and stayed away. The enterprising host, however, was rewarded by being elected President of the Society. I felt somewhat severely punished for my meddling, and vowed that I would try to be more guarded in future. Is it not unworthy of the honorable profession of medicine, upon whose banners is inscribed the motto, "Our duty is to save, and not to kill," that there should be any doubt as to our procedure in such cases? We are responsible to the patient, to his friends, and to God for the most faithful performance of duty possible; and never should we consider ourselves placed in a position to exercise our judgment in opposition to his will.

In case a monstrosity is born, we are in duty bound to proceed by regular obstetrical *usages*, if not laws, to sustain life, trusting in God, "*to whom alone belong the issues of life and death.*" If our noble profession is to be degraded to the level of a trade, *then*, perhaps, we shall find men belonging to it in doubt as to whether we are sent to take life or to endeavor to save it. Thanking you for your valuable editorial, I am very truly yours,

A MEMBER OF THE MEDICAL PROFESSION.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a meeting held December 12, 1883, Dr. W. M. Welch, President, in the chair, Dr. Arthur V. Meigs read a paper entitled "Proof that Human Milk contains only about one per cent. of Casein: with Remarks upon Infant-Feeding."

In this communication the lecturer demonstrated, by the process of exclusion, from a series of analyses, that human milk does not contain more than about one per cent. of casein, as an average. He made the following practical remarks, in conclusion, upon "infant-feeding," and recommended the following method of preparing the food:

"The easiest way to prepare and use the food is as follows. There must be obtained from a reliable druggist packages of pure milk-sugar containing seventeen and three-quarter drachms each. The contents of one package are to be dissolved in a pint of hot water, and it is best to have a bottle which will contain just one pint, as there is then no need for further measuring. The contents of one of the sugar packages are put into the bottle, and when filled with hot water the sugar soon dissolves and it is ready for use. The dry sugar keeps indefinitely, but after it is once dissolved it sours if kept more than a day or two in warm weather: it is understood, therefore, that the sugar-water must be kept in a cool place, and if it should at any time become sour, as is easily discovered if it is smelled and tasted, it should be thrown out, and, after the bottle has been carefully washed with boiling water, the contents of a fresh package dissolved. A milkman must be found who will serve every day fresh, good milk and cream. By good milk is meant ordinary milk, such as is easily procured in most cities, and not rich Jersey milk; and in the same way the cream should be such as is ordinarily used in tea and coffee, and not the very rich cream of fancy cattle. The reason that ordinary milk and cream are recommended is because they are within the reach of almost every one, and not because they are any better than the rich milk of high-bred stock.

If Jersey milk were to be used, it would be necessary to analyze specimens and then make the necessary calculations as to how to dilute it to obtain the desired relative proportions of the proximate principles. When the child is to be fed, the nurse should mix together two tablespoonfuls of cream, one of milk, two of lime-water, and three of the sugar-water, and then as soon as the mixture has been warmed it may be poured into the bottle and the food is ready for use. If the infant be healthy, this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. Twice as many tablespoonfuls of each of the ingredients must be mixed together, making sixteen tablespoonfuls (about half a pint) in all.

"This food should not be given any stronger until the child is eight or nine months old, at least; but if the infant be a healthy one, it may take as much of it as it wants, but always of the same strength. A robust infant will often take three pints, or even more, in each twenty-four hours. It is an easy matter for any one to learn how to make the lime-water; and it is advisable to have it made at home, for a great deal is used, and if it is made at home much trouble and expense are saved.

"With regard to the propriety of increasing, from week to week, the strength of any artificial food given to infants there has been some question. Most authorities have advised that the foods should be increased in concentration until finally the infant is given pure cow's milk. The propriety of this procedure, during the earlier months of life at any rate, is very doubtful. Although there is some reason to believe that the quantity of solid ingredients in human milk increases from month to month as lactation goes on, such an opinion should be accepted only with great caution, for it seems likely that if there is any increase in the concentration of the milk after the colostrum has once disappeared and the nursing process has settled down into its even course, the increase is so slight that it may be disregarded. Analyses show that the milk of a woman whose child is two months old does not differ materially from that of one whose child is twelve or fifteen months old. If, then, nature has made no difference which our means of analysis will detect between the milk of a woman who has been nursing two months and one who has nursed twelve, an artificial food which has been found to suit an infant of two months should be made more concentrated only very gradually, and with careful observation of the effect upon the health of the infant. It is best, therefore, if the infant thrive and grow as it should, not to make any change in the food until after six to nine months of age have been attained.

"With regard to the use of condensed milk as a food for young infants, I can only repeat what I said in my former paper,—that I cannot believe that any article which has been canned, and kept for weeks or months, or perhaps still longer, can be as good as the same thing when fresh. My table of analyses shows the composition of the dilution of condensed milk commonly used in this city, and it shows that the proportion of fat is much too small, and for this reason, partly at least, it fails as a food. Its success is due to the fact that it contains nearly the same proportions of casein and sugar as exist in human milk. Dr. Ellwood Wilson is in the habit of directing that after the first few weeks a small proportion of fresh cream be added to the condensed milk, and this would render it still more nearly what is needed. This practice, which cannot be too much commended, if condensed milk be used, is not, however, at all a common one. Withal, I am unable to believe that condensed can be as good as fresh milk, if properly used."

AT a meeting held December 19, 1883, Dr. Roberts Bartholow read a paper on "Nitro-Glycerin and the Chloride of Gold and Sodium in the Treatment of Albuminuria." The former remedy (in one per cent. solution) is recommended, in drop doses, in the more acute cases, influencing as it does more directly the blood-supply; the other, a double salt, is indicated in the subacute and chronic cases, especially the latter, in doses of one-tenth of a grain at first, reduced at the end of a week to one-fifteenth of a grain, then continued for a month in smaller doses. If good effects are not observed in two weeks, they may be discontinued. He had observed very good results from its use in this class of cases.

Dr. Charles H. Burnett read a paper on "The Supposed Connection between Ear-Disease and Kidney-Disease," in which, after reviewing the testimony of different observers, he arrived at these conclusions:

1. Evidences in favor of either frequent or well-marked aural lesions dependent upon renal diseases are extremely meagre.

2. Those lesions in the ear which have been found in connection with Bright's disease and diabetes mellitus, and which may have been dependent upon the dyscrasia induced by these renal disorders, are in the form of sero-sanguinolent and hemorrhagic effusions into the drum-cavity. But the latter must not be mistaken for the sthenic form of otitis media hæmorrhagica.

3. From the serous nature of the membranous structures of the labyrinth, organic changes might reasonably be expected in Bright's disease; but positive proof of the occurrence of such lesions based on ante- and post-mortem history is wanting.

Dr. James Tyson read a "Note on Some Recently-Suggested Delicate Tests for Albumen." In this communication he con-

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sidered—1, a saturated solution of picric acid, suggested by Dr. George Johnson; 2, saturated solution of ferrocyanide of potassium after free acidulation by citric acid, suggested by Dr. Pavy; 3, standard solution of potassio-mercuric iodide, suggested by Tanret,* after acidifying the urine by citric acid; 4, equal parts of a saturated solution of sodium tungstate (1 in 4), saturated solution of citric acid (10 in 6), and of water; 5, acidified solution of potassio-mercuric iodo-cyanide. The last two were suggested by Dr. George Oliver in the *Lancet*, February 3, 1883. To complete our list of available tests, he added—6, the ordinary heat and acid test; 7, the nitric acid test, by Heller's overlaying method; and, 8, the acidulated brine, suggested by Dr. Roberts, of Manchester, England, and consisting of an ounce of hydrochloric acid added to a pint of water saturated with common salt, and filtered.

The lecturer, after reporting the result of his experiments, concluded that the sodium tungstate solution and the ferrocyanide of potassium, but particularly the former, are more delicate, as tests for albumen in the urine, than heat, acid, or brine. These tests, however, like picric acid, precipitate peptones as well as albumen, and this may be a possible source of error. The ferrocyanide does not precipitate peptones, but gives a deposit with amorphous urates. If the quinine fallacy of the picric acid test be borne in mind, this solution, acidulated with citric acid, is an available test of great delicacy, cheap, and easily prepared; but the sodium tungstate was preferred, as being less liable to cause error. He would not, however, dispense entirely with the old heat and acid test.

Dr. William S. Little read a paper entitled "Eye-Symptoms and Conditions in Bright's Disease." He stated that among nine hundred and eleven cases of Bright's disease reported by different observers changes in the retina had been recorded in one hundred and eighty-five, or about twenty per cent. Amaurosis had been known as a symptom of dropsy even before the renal disease was recognized by Bright, and long before the use of the ophthalmoscope. He continued as follows:

"Retinitis, generally symmetrical, if not always so, appears in all forms of kidney-disease, while it is principally associated with the chronic disease of the cirrhotic kidney. Even though symmetrical, its presence is not always known to the patient. Especially is this so as long as the region of the macula lutea in the retina is not affected so as to produce a central scotoma. Lesions near the nerve and peripheral parts of the retina are not so productive of recognizable scotoma in the field of vision. These cases do not have the restricted visual field and rarely the loss of color-sense that belong to optic nerve and brain troubles or contracted field of glaucoma. The symptoms may correspond to those of retinitis from any other cause,—flashes of light, color-sensations, dread of light, impaired vision, to total blindness.

"The ophthalmoscopic examination may only reveal the lesion, the patient being ignorant of it and not observing the gradual change. The picture of this form of retinitis is a decided one, as a rule. When the changes are slight, it is uniform, though at times a differential diagnosis is required from the conditions of the optic nerve and retina due to intracranial disease or to pernicious anæmia.

"While the lesions occur generally near the optic nerve and to the temporal side, the nerve itself is not implicated to the degree that might be expected from the picture it presents. The separate spots in the retina finally coalesce, approaching the disk and involving it; in other cases they surround the region of the fovea centralis and are much smaller. They may occur anywhere in the retina, varying in size; the shape is somewhat quadrilateral, but may vary as they progress; they present a white appearance. The tissue near the disk, and the disk itself, appear striated; spots of hemorrhage are found from rupture of retinal or choroidal vessels; opacities in the vitreous are seen. The state of pigmentation is the latest. In chronic cases the color of the fundus is peculiarly yellow, and the character of the picture is at times very much like the neuro-retinitis of brain-disease or pernicious anæmia.

"The changes result from the hyperæmia and infiltration of the tissue, fatty degeneration and atrophy producing changes in the blood-vessels with hemorrhage; a fatty deposit occurs in the retinal tissue, the fibres of the retina become sclerosed, and pigmentation follows.

"The optic nerve is not seriously involved, though gray degeneration may exist and numerous amyloid bodies may be seen with the microscope. The retina does not always present all the stages described; the kidney-disease being amenable to treatment, the retina may not undergo any further change; where it is chronic, a like progression ensues in the retina. Marked lesions at times disappear, leaving only a slight trace. The hemorrhagic state is more severe, the sight not only being lost, but the patient's life also being endangered.

"During gestation the same picture exists; the optic nerve may be more seriously involved. A case recently seen, and having uræmic symptoms, being unconscious two weeks prior to the delivery of the child, it being born dead, had complete atrophy of one optic nerve, with extensive retinal lesions;

* Mercuric chloride, 2.7 grains; potassium iodide, 6.4 grains; distilled water, 100 c.c.

the other nerve partially affected, and slight retinal changes; patient almost entirely blind. In another case, with convulsions, only slight changes in each eye near the fovea. In succeeding pregnancies the conditions may arise again, producing more serious changes in the retina.

"The prognosis, so far as the vision is concerned, is serious when the region of the yellow spot is encroached upon; and yet fair vision may remain after subsidence of the disease.

"Can a prognosis as to the duration of the disease or as to its fatality be derived from the eye-symptoms? Only in the chronic stages of the disease, when retinal hemorrhages are extensive and repeated, the heart being diseased. Traube considered the heart the immediate cause of these retinal hemorrhages, but they exist in cases without heart-trouble and in other diseases of the system, and in intraocular conditions. Brain-symptoms soon follow in these severe types of retinitis, in chronic kidney-disease a general hemorrhagic condition being developed, or uræmia may ensue. In the acute forms of Bright's disease no prognosis of any value can be formed from the eye-symptoms, though severe.

"As to treatment of the eye in this disease, only what renders the disease of the kidney controllable is of advantage to the retina; leeching may be useful if the patient be not too anæmic. For the vitreous opacities, in cases where the disease is under control and the acute condition of the eye abated, electricity is of considerable value, much more so than any plan of medication.

"The microscope shows a sclerosis of the retinal fibres, the walls of the blood-vessels degenerated, fatty deposits along the fibres and in the layers of the retina, also in places a pigmentation; the choroidal vessels are implicated as well.

"Uræmic amaurosis is rare, Wagner finding one case in one hundred and fifty-three of Bright's disease. Graefe found two cases in thirty-two cases of albuminuric retinitis; it presents no retinal change that is recognizable.

"As yet we cannot tell why the retinal changes occur with disease of the kidney. Does the structure of the retina and its proximity to a highly-vascular tissue account for it?"

In the discussion on Dr. Little's paper, Dr. Albert G. Heyl said, "I desire to direct attention to the relation which exists between the intraocular phenomena observed in Bright's disease and the anatomical arrangement of the intraocular arteries. The latter are divisible into certain areas: thus, we have one area composed of the arterial circle of Zinn which supplies the optic papilla; another formed by the arteria centralis retinæ which supplies the retina; another composed of short posterior ciliary arteries which supply the posterior half of the choroid; still another composed of the long ciliary arteries which supply the iris and the anterior half of the choroid; the short anterior ciliary arteries also take part in the formation of this area. Now, it is established that abnormal changes in connection with Bright's disease may exist primarily in each of these areas, with perhaps one exception, to be mentioned directly. Thus, the papillary area may be affected, and a papillitis will be found on examination, the choroid and retina and iris being unaffected. Again, the posterior choroid area may be affected, and there will be found the phenomenon of subretinal œdema, and also in the choroid the white accumulations so well known in connection with Bright's disease. Both of these forms are considered to be rare; perhaps they would be observed oftener were we more alert. A case reported by me (*Amer. Jour. Med. Sci.*, October, 1874) of retinal separation occurring in one eye, while simultaneously the other was affected by temporary amblyopia, probably belonged among the affections of the posterior choroidal area. Further, the retinal area may be affected, and the peculiar retinal appearances so well known are found. So far as I am aware, no separate affection of the irido-choroidal area has been described; there seems to be no reason why it should not occur. Of course there are many cases in which the areal lesions exist together, but they are to be looked upon as the result of one common cause, not as the result of a morbid process starting in one area and gradually implicating the others.

"In referring to the snow-like patches of the fundus, commonly looked upon as the characteristic intraocular appearance of Bright's disease, I think that to a certain extent they are to be looked upon as the remnants of intraocular hemorrhage. While hemorrhagic clots formed of normal blood are absorbed without any whitish residuum being left, the case is different where the blood, as it circulates in the vessels, is in a morbid state. Thus, in a case of pernicious anæmia I have observed a number of round red hemorrhagic spots with white centres. On examination, ten days later, the red coloring-matter of the hemorrhages had largely disappeared, leaving as a residuum white masses. Some of these were speckled with red points arranged in spindle-form like the hemorrhages of the retinal nerve-fibre layer. They were, however, simply the unabsorbed remnants of the round hemorrhagic spots seen ten days before. So in morbus Brightii the blood is in such a morbid condition that hemorrhagic clots rapidly lose their red coloring by absorption, leaving behind a white residuum, which may partially, at least, explain the white placques seen with the ophthalmoscope."

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 27, 1883.

The President, DR. TYSON, in the chair.

Fracture of the base of the skull. Exhibited by Dr. GUY HINSDALE.

J. H. W., æt. 50, fell on the ice December 8, 1882, striking upon the stone pavement. The blow was received on the posterior and left side of the skull, and the skin was not broken. He was shortly afterwards admitted to the Episcopal Hospital, and was totally unconscious. Blood was found flowing from his mouth and left ear, and his nose contained clots. His pupils afforded no evidence of his condition, because of an iridectomy which had been performed on both eyes some years previous. He talked incoherently. Breathing was labored and at times stertorous. Paralysis of the left leg was noted.

The blood continued to issue from the left ear, and on the second day the discharge became thin, and continued serous until his death, which occurred on the eleventh day. The urine was examined several times, and found to contain sugar in moderate amounts, but no albumen. Urine was passed freely. The patient never regained consciousness. He became more stupid, and paralysis of the left leg remained.

At the autopsy, a superficial clot was found over the brain, beneath the seat of injury. A very large clot was found over the right frontal region, beneath the membranes, and filling the sulci between the convolutions. This was the result of the counter-stroke, the force having been first received at a point diametrically opposite, and fully accounts for the left-sided paralysis. The fracture was slightly over five inches in length. It extended from a point in the left occipito-parietal suture one and a half inches behind the temporal bone, and traversed the suture, passing through the petrous portion of the temporal, the auditory canal, close to the inner side of the foramen ovale towards the foramen rotundum, where it terminated.

Necrosis of the temporal bone, and brain-abscess. By Dr. GUY HINSDALE.

This specimen was removed from the body of Margaret P., æt. 46, who died in the Episcopal Hospital September 21, 1882, after long-standing aural disease.

In early childhood she had scarlet fever; this was followed by aural catarrh, and the discharge from the ear continued until her death. She stated that when 22 years of age a polypus could be seen in her ear. Fifteen years ago this was removed. Again masses were removed thirteen years, two years, and one year ago. In May, 1883, four months before her death, the patient consulted Dr. Burnett, who has very kindly furnished me with notes of that date. The patient presented at that time a most wretched appearance. Extreme weakness, pallor, and emaciation betrayed the intense suffering of this unfortunate woman. Paralysis of the right side of the face had occurred during the previous winter without the supervention of additional ear-symptoms. At the time of examination she presented great sensitiveness of the auriculo-temporal nerve, and complained of intense pain over the right temporal bone. To control this pain she was accustomed to use morphia suppositories. An examination of the ear revealed a mass of granulations filling the entire lumen of the auditory canal, half an inch from the entrance. Late in May a large polypoid mass was extracted. Bare bone was then discovered on the posterior portion of the canal, the channel narrowed and blocked with granulations. About two fluidounces of blood escaped after removing this mass.

When I saw the woman at the hospital in September, she was in a very low state and evidently near her end. Her mind was seriously affected. Conversation was impossible, and she groaned with the pain which large doses of morphia could not altogether control. There was a moderate but constant purulent discharge from the ear and from a sinus which was found above the meatus. The whole temporal region was boggy. The probe passed in freely over an inch, and loose particles of dead bone could be everywhere felt. The disease had long been beyond the reach of any remedy, and there was nothing to be done but to relieve pain and await her death.

The specimen removed embraces portions of the right temporal, parietal, and occipital bones. Almost all the temporal bone has been destroyed. Only the mastoid process and the upper border of the squamous portion remain. An area of bone one and a half inches by two inches has entirely disappeared. Adjacent to this region and lying next to the middle fossa of the skull was a brain-abscess, the walls of which were greatly thickened. On opening this cavity, about an ounce of thick, yellowish pus was found. A probe easily reached this cavity through the auditory canal and the sinus above it, and many loose fragments of bone were found at the outlet. The styloid process was found loose, but held in position by the various ligaments that arose from it. The inflammatory process, in which the meninges had of course shared, was not acute. The brain-substance beyond the abscess-walls had no unusual appearances, and the left cerebral lobe, with its membranes, was normal.

Dr. C. H. BURNETT said the great destruction of bone-tissue is remarkable and unusual in extent, being three inches in length and one and a half to two inches in breadth. The necrosis seemed to have originated in

the tympanic region rather than in the mastoid, and hence belongs to the class of cases second in frequency,—the most frequent being those fatal cases where the bone-disease originates in and extends from the mastoid cavity. The case when seen by Dr. Burnett, in the spring of 1883, presented very grave symptoms, and the patient was extremely weak,—so much so that Dr. Burnett was surprised that she lived until September. The occurrence of extensive granulations in the external auditory canal constituted a very unfavorable feature, as they acted like a dam, preventing the escape of the products of inflammation, and held them back in the tympanic cavity and mastoid cells, forcing them to break an escape through more important and vital tissues. The case furnishes another example of the evil of neglect of purulent disease of the ear.

Dr. BURNETT inquired whether there were symptoms of destruction or implication of any of the nerves passing through the cavernous sinus, as would be shown by alteration in parts supplied by the oculo-motor, pathetic, and ophthalmic nerves, to which Dr. Hinsdale replied that no eye-symptoms had been ever detected.

Case of phthisis with empyema. Presented by Dr. H. M. FISHER.

The patient, J. C., æt. 21, was admitted to the Episcopal Hospital March 17, 1883. He states that he has had a slight cough for one year, but that he was not much annoyed with it until about one month ago, when he was seized with severe pain in the left chest, accompanied by chilly sensations and difficulty of breathing. Upon admission, he presented all the symptoms of left pleural effusion, absent vocal fremitus, tubular breathing, and bronchophony in the neighborhood of the spinal column on the left side. His chest was tapped on the morning of March 21, and three pints of a semi-purulent fluid were evacuated. The operation was followed by great improvement in the patient's symptoms. Three weeks later he left the hospital, contrary to advice. He was readmitted April 20, and stated that soon after leaving the hospital the pains in the side returned, followed by dyspnœa. April 23, paracentesis thoracis was performed by Dr. Henry, and fifty-six ounces of purulent fluid were drawn off, and the operation again afforded great relief. A violent fit of coughing followed the withdrawal of the canula. The heart's apex-beat was found, before the operation, to be immediately below the right nipple; after the operation it was found to have shifted one inch to the left of its previous position. May 5, Dr. Forbes operated at Dr. Henry's request, making two openings into the left pleural cavity, one at the fifth interspace, the other at the fourth and to the right of the first. Ten ounces of purulent fluid were withdrawn by means of the aspirator, and a soft-rubber catheter was passed in at one of the openings and out at the other. The pleural sac was then ordered to be washed out daily with a solution of corrosive sublimate, gr. i–℥i.

During the summer the patient's general condition seemed for a time to improve; his appetite, however, continued obstinately bad, and he had constipation alternating with diarrhœa. In October it was noted that he was losing flesh and strength rapidly, and that there was much œdema of the feet and legs. During this month diarrhœa became a constant symptom, and death occurred November 22.

Post-mortem examination, ten hours after death.—The body is extremely emaciated. The left lung is contracted to about one-fourth of its normal size, and contains in its upper lobe some cheesy masses, with areas of catarrhal pneumonic infiltration. The left pleural cavity contains about five ounces of ichorous pus. The parietal layer of the left pleura is so tightly adherent to the chest-wall that it is impossible to detach it without dissection. The pulmonary layer is also tightly adherent to the contracted left lung, the lobes of which are firmly matted together by adhesions. The *right* lung also presents numerous cheesy foci, with large areas of catarrhal pneumonic infiltration. The heart is rather small, and its tissue is pale, but its valves appear normal. The liver weighs six pounds six and one-half ounces; its tissue is pale, and it has a *markedly waxy appearance* The spleen is much enlarged, its tissue *firm, and of a dusky-red hue.* Numerous *yellowish-white nodules* are also seen in it, the largest of which is perhaps of the size of a small pin's head. The kidneys are rather large, their capsule is non-adherent, and their tissue rather paler than normal. Numerous *minute whitish nodules* are also found to be scattered through the tissue of both kidneys. These appear rather more numerous and larger in the cortical portions, but are also found in the medullary portions. From some of the larger nodules a whitish puriform substance can be squeezed out with the blade of the knife. With the naked eye the exact nature of the above-mentioned infiltrations of the spleen and kidneys is difficult to determine. Nothing abnormal was noticed in the intestinal tract, except in the ileum, where an area of intense congestion was noticed about one yard from the ileo-cæcal valve, but no ulceration was anywhere detected.

My view of the sequence of pathological events in this case is the following: *first*, catarrhal pneumonia, with the production of cheesy foci; *secondly*, scrofulous inflammation of the pleura, with attendant exudation, which from the start was probably more or less purulent; and, *thirdly*, the infiltration of the *liver, spleen*, and possibly also the *kidneys*, with amyloid matter.

The exact nature of the yellowish-white nodules in the spleen and kidneys being yet undetermined, I cannot yet assign to them a positive place in the chain of scrofulous processes; but from the absence of any macroscopic evidence of embolic infarction or of any appearance of infarction in the one microscopic section of the kidney I had the opportunity of examining (kindly made for me by Dr. Henry), I should conclude that these were also cheesy foci, and their production may perhaps have nearly coincided in point of time with the production of the cheesy foci in the lungs above alluded to.

Dr. SHAKESPEARE said that the specimen was a good instance of miliary tuberculosis. The small collection in the spleen might be tuberculous, he thought, and should have been examined for tubercle-bacilli. He adverted to the successful employment of very weak solutions of corrosive sublimate in washing out suppurating serous cavities.

Atheroma, dilatation, and aneurism of the aorta; atheroma of some of its branches; death from rupture of the aneurism into the left pleural cavity; congenital deformity of the stomach; malposition of the transverse colon and right kidney; irregular shape of the kidney; anomalous origin of the renal arteries and of the ureters. By J. H. MUSSER, M.D.

These remarkable series of specimens illustrate how serious a disease can be in progress within the body without any manifestations. The patient had been under the care of Dr. Ludlow in the Presbyterian Hospital, complaining of, and being treated for, nasal catarrh. He complained also of a slight bronchitis, but, it not being very decided, the nasal trouble alone was treated. A white man, æt. 63, well nourished, of temperate habits, and by occupation a wheelwright; was under observation ten weeks; no previous illness. He slept well the night before his death until 5 A.M. He then told the night-nurse he was very cold. Being covered, he went to sleep apparently; an hour afterwards he was found dead. The writer made the autopsy about twelve hours after death.

Inspection.—Rigor mortis well marked; body well nourished; no scars or bruises; no ecchymoses; abdomen moderately distended; in the right lower quarter a decided swelling was noticed, almost filling that area, and resonant on percussion.

Section.—Abdominal cavity first examined. The above-described swelling was due to the cæcum and transverse colon. The ascending colon extended about half-way the usual distance, and then turned at a sharp acute angle into the transverse colon. The latter descended parallel to the former into the right iliac fossa, and from thence diagonally upwards across the abdomen to the usual place of junction with the descending colon. The omentum contained a considerable amount of fat. The right lobe of the liver could not be seen until removal of the ribs, when it was found two inches above their margin, and to be only two and one-half inches in length in the nipple-line. In the median line this same perpendicular length was three and one-half inches. More of the left lobe was visible than of the right. Along the edge of the left lobe, from the median line, four and one-half inches in length, extended the *stomach*. It appeared to be small in size. When removed, it was found to be divided by a constriction five inches from the fundus; from this constriction to the pylorus the length was four and one-half inches. The first or cardiac end was much smaller than normal, the walls and mucous membrane healthy. The second portion was a mere tube with thick walls. The thickening was due to the hypertrophy of the longitudinal muscular layers, and to the folds that the mucous membrane was thrown into. These folds were very marked, longitudinal, and on their crests congested. The peritoneum was opaque and thickened. The *liver* was smaller than usual also. The capsule was thickened and opaque along the edges of the right lobe; on the superior surface there were cicatrices, and a firm adhesion at one point to the diaphragm. On section, the tissue was firm on pressure and congested. Commencing cirrhosis noted in microscopical examination. The *gall-bladder* projected one inch below the liver-margin in the nipple-line. The *left kidney* was found in its normal position. It was much enlarged, five inches long, two thick. Its pelvis was filled with fat, the substance pale, hard on pressure, with a contracted cortical portion. The capsule tore off easily. The *right kidney* was found in the pelvis at the right sacro-iliac articulation. It was small in size, irregular in shape, parallel to the os sacrum. The portion dipping downwards tapered to a point, being one-half inch in width; the upper portion was two inches wide. The pelvis of the kidney was filled with fat. Towards the small end of the kidney the pelvis divided, one part extending upwards one inch, along one side of the organ, the other the same length on the other side; or it might be said that a portion of the kidney dipped into the pelvis, separating it for an inch. The renal artery arose from the normal origin of the middle sacral. Therewith from the point of origin it divided; one branch, two and one-half inches long, entered one lateral hilus, if it may be so termed. The other divided two and one-half inches from the main trunk, one subdivision entering the remaining lateral hilus, the other running across the floor of the pelvis to the normal end of the kidney. The ureter arose by three branches,—two from the upper end, one from one of the smaller pelvis.

Thoracic cavity.—Left pleural cavity almost

filled with blood, the lung floating on the fluid. The lateral surface was adherent to what was the aneurism. On its removal, the collapsed sac was seen on the left side of the vertebral column. The heart and aorta were removed entire. *Heart* enlarged, left side especially, weight eleven and one-half ounces; measurements of left ventricle,—near base one and one-eighth inches thick, in the middle seven-eighths inch thick, at apex one-half inch thick; mitral valves a little thickened, aortic healthy; atheromatous processes were present in the aorta from its beginning to the cœliac axis, and extended into the latter vessel, and also the innominata and carotid arteries. These processes included the sclerotic changes shown by innumerable small, smooth, firm elevations of the surface, the degenerative changes, fatty and calcareous, and also the atheromatous. One calcareous plate was found in the cœliac axis. From its origin to the middle of the transverse aorta the vessel was dilated, and the characteristic fatty changes of the proliferated cells of the intima —lemon-yellow-colored, smooth, soft elevations—were marked. Opposite the trachea the calibre of the aorta diminished to almost normal size, and here the sclerotic changes were most marked, as well as around the mouths of the vessels. At the junction of the transverse and descending aorta the lumen was again closed; here the aneurism originated. It was five and one-half inches long, and, when distended, twelve inches in circumference. It was of the true variety; but from it sprang four false aneurisms, varying in size from a filbert to a small egg. Organized clots covered the surface of portions of the wall, and on dissection it was found that these clots were either connected within the false aneurisms or clinging to atheromatous ulcers. Rupture of the sac took place behind the pleural adhesions and leaked into the cavity, finding its way through the adhesions. The vertebræ were not eroded, and, although the sac was in contact with the left bronchus, there were no evidences of decided pressure upon it, while the relations to nerves, other vessels, and the œsophagus were such that the usual pressure-symptoms could not arise. It is thus seen that by physical examination alone could this aneurism have been detected. There were absolutely no subjective symptoms, and the autopsy reveals the reason of this.

Hour-glass contraction of stomach (congenital). Presented by J. H. MUSSER, M.D.

The patient, an adult, from whom I removed this stomach died of organic heart-disease. Constant vomiting occurred a few months before death, but as a sequence of the general condition of the patient, and not on account of the gastric change. I call the appearance congenital because of the absence in the clinical history of any occurrence throughout life to have caused it, and of the want of evidence on post-mortem inspection. The contraction took place in the centre, and was transverse; the peritoneum and submucous connective tissue were thickened at this point. Anterior to the constriction the muscular coat was hypertrophied. The mucous membrane was thrown into folds in the constriction.

Lung from a case of pleuro-pneumonia complicated with delirium tremens. By J. H. MUSSER, M.D.

I present this specimen to-night on account of its perfection. It is the lower lobe of the right lung in the stage of red hepatization, as indicated by the appearance, weight, etc. Almost the entire pleural surface, including the diaphragmatic, is covered with recent lymph, the layer averaging one-half inch in thickness. The tongue of the lung dipping into the space between the diaphragm and the thoracic wall is not solidified entirely. Here the lymph is abundant and the contiguous portion of the lung is hepatized, as if the inflammatory process extended from the pleura. This peripheral hepatized portion is but one-fourth of an inch wide. The inner succeeding portion is not solidified.

The patient died eighteen hours after admission to the hospital, from heart-clot. When admitted, there were evidences of its formation, and in addition he had delirium tremens. The pneumonia was distinctly recognized. There were no signs of simple or diaphragmatic pleurisy. At the autopsy, on removing the sternum, the extreme distention of the right heart, especially the auricle, was remarked. On opening the heart, hypertrophied from other causes, the right side was found filled with blood, and an enormous ante-mortem clot entwined around the leaflets of the tricuspid valve and extending through the auricle into the pulmonary vessels. A similar clot was found in the left heart. The kidneys were congested, and commencing cirrhosis appeared manifest.

The history of the case antecedent to the admission to the hospital is as follows. The patient had been on a "spree" for two weeks and five days before admission, and had had a severe chill, followed by the symptoms of pneumonia. Two days after the chill the mania developed, and on the day of admission he had been found wandering about the streets by a crony, who brought him to the hospital. He was 41 years old, a boss machinist, single, of intemperate habits.

Carcinoma of the uterus, fatty kidneys, and empyema. By W. A. EDWARDS, M.D.

The specimens which I show you to-night were taken from the body of A. E. this morning. I have not as yet had the opportunity of examining them microscopically. The patient was visited but once before her death by Dr. J. S. Watt, for whom I made the post-mortem examination. The history of the

patient is, of course, imperfect; in fact, little, if any, could be obtained. The symptom of which she complained the most was an ill-smelling, irritating discharge from the vulva: so our attention was first directed to the womb, which presents a scirrhous carcinoma of the external and internal os and of the cervical canal. The mucous membrane of the organ is softened and very rugous, looking not unlike a mammillated stomach. A microscopic section will probably show cellular infiltration. The uterus is enlarged. Our subject was a multipara, æt. 45, nine children and two miscarriages. A cyst was seen in the right parovarium; its contents were pure serum. The ovaries presented areas of calcareous degeneration; other pelvic viscera normal. The kidneys are small, and appear to have undergone some amyloid change; the right one was a rib higher than its normal position. Heart-muscle has undergone some fatty degeneration, as has also the aorta; valves almost normal; ante-mortem clots in each ventricle, that in the right of unusual size. Pericardium contained the usual straw-colored effusion.

Lungs.—Left, normal; right, the pulmonary and costal pleura were in many places adherent by thick, well-organized lymph, which beautifully illustrates the *rationale* of friction-râles, their sudden appearance, short duration, and equally sudden disappearance. About a pint of purulent effusion was collected in the base of right chest. The diaphragmatic pleura was tightly adherent to the pulmonary, requiring some tearing in order to separate it. The lobes of this lung are bound down by recent lymph. Scattered throughout the mesentery were to be seen areas of calcareous degeneration about the size of almonds.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, THURSDAY, JANUARY 3, 1884.

The President, R. A. CLEEMANN, M.D., in the chair.

BATTEY'S OPERATION.

DR. E. E. MONTGOMERY corrected a statement made in the report of the case of ovariotomy narrated by him at the meeting of December 6, 1883. *Silk ligatures*—not catgut—were used to tie the pedicles.

The convalescence of the patient had been very satisfactory. The temperature did not rise above 99° F. In performing this operation no antiseptic was used. All instruments, sponges, etc., were washed in boiling water, and boiled water was used in washing the wound and abdominal cavity. The mental condition of the patient was such that she was kept constantly under mechanical restraint; and on one occasion, when she had been left alone for a few minutes, she tore all the dressings off the wound, and at the next visit it was found bare; but no bad result followed. The sutures were removed on the eighth day. Some pain in the lower part of the abdomen, and slight fever, commenced on the twenty-fifth day; but she has since again improved. Her mental condition is at the present better than it had been for a year before the operation, and she can now converse rationally.

SEPTICÆMIA AFTER ABORTION.

Dr. W. H. PARISH reported the following case. A young woman, 20 years of age, came into the Philadelphia Hospital in the finishing stages of an abortion which had been coming on for some days. The cause was unknown, but was probably instrumental. At the time he first saw her, three days after her admission, her temperature was 103° to 104° F., and her pulse one hundred and fifty. She had had a chill before admission. Her abdomen was distended and tender, and the uterus was very sensitive. The right parotid gland was swelled and painful. It continued to enlarge, and, fearing septicæmia, he gave her fifty grains of quinine daily, by rectum, as the stomach was too irritable to retain it. One ounce of whiskey was given by the mouth every hour, day and night. A small quantity of morphia was given to relieve the abdominal tenderness. The pulse and temperature fell rapidly, but the gland continued to be swelled and painful. It was quite hard, but was not discolored. There were no chills now, but, fearing the presence of pus, he made an opening by Hilton's method, incising the skin and using a director to tear an opening through the gland-tissue. This opening was enlarged by passing a pair of forceps, closed, along the groove of the director, and withdrawing them opened. This opening gave exit to two or three fluidrachms of pus. The gland now improved in appearance, but another abscess opened behind the gland and discharged freely. The two abscesses did not communicate. The patient is now convalescent.

OFFICERS OF THE SOCIETY FOR 1884.

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NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held January 9, 1884, GEORGE F. SHRADY, M.D., President, in the chair.

TUBERCULOSIS OF THE TESTICLE.

Dr. A. G. GERSTER presented three different specimens, illustrating different stages of acute tuberculosis of the testes, which he had extirpated within a comparatively recent period. In the case of the first specimen presented, the patient had had hydrocele, for which Volkmann's operation was performed, resulting in the successful closure of the sac and the cure of the hydrocele. But five weeks later the patient returned, with symptoms of chill, sweats, loss of strength and flesh. Tuberculosis testis being recognized, ablation was performed, and the patient recovered from the aforementioned symptoms. Upon examination of the part removed, it was noticed that the central mass was hard but had not yet undergone the breaking-down process.

In the second case, the man had suffered from acute orchitis and epididymitis of traumatic origin. About seven weeks after the injury there were signs of tuberculosis of the testicle, with chills, sweats, loss of strength, etc. The hardened mass in this case had begun to break down centrally; and the tunica vaginalis, instead of being smooth and hard, was fungous, resembling the condition of the synovial membrane in tuberculosis of the joints.

In the third specimen the disease had become more advanced, the specimen being almost entirely broken down. The tunica vaginalis was almost obliterated. Dr. Gerster thought that tuberculosis of these organs was recognized earlier at the present time than formerly, and very properly led to the practice of early ablation. Formerly the idea prevailed that the organ should be let alone until finally it went on to a condition of so-called hernia testis. In none of these cases were signs of associated pulmonary tuberculosis discovered.

SPECIMEN OF LUNGS, LIVER, AND KIDNEYS THE SEAT OF TUBERCULOSIS.

Dr. J. FURGESON presented the specimens, with the history of the case. The points of interest were—first, the absence of cavities in the lungs, which were the seat of very general tuberculosis; and, second, the excellence of the specimens of recent miliary tubercle pertaining to the liver and kidney.

Dr. E. C. WENDT remarked that some German observers had seen the tubercle-bacillus in the urine of patients suffering from tuberculosis of the kidneys.

PULMONARY AND NEPHRITIC TUBERCULOSIS, WITH OBSCURE SYMPTOMS.

Dr. H. N. HEINEMAN presented the specimens, which had been removed from a German, 29 years of age, who gave the following history. He entered the Mt. Sinai Hospital on the 23d of December last. There was no history of venery or of alcoholism in excess. His symptoms dated back four years, when he had pain in the region of the bladder, frequent urination, occasional vesical tenesmus. The urine was cloudy, but never contained blood. At times there was incontinence, while at other times the urine had to be withdrawn with the catheter. He also suffered some from backache, and had involuntary emissions at times, unaccompanied by erection. For four years previous to his marriage, which took place two years ago, he was addicted to masturbation. Nine months before admission, irregular chilly sensations developed. On admission, there was no cough, no pyrexia; there was emaciation, and râles heard over the chest, the signs pointing only to simple bronchitis. The urine was diminished in quantity and contained pus. The patient died six days after admission. The autopsy revealed recent miliary tuberculosis of the lungs, bronchitis, cirrhosis of the liver, and waxy spleen. The left kidney was eight inches long, four and a quarter inches wide, and weighed two pounds. The pelvis contained no pyogenic membrane. The cavities into which the kidney was divided were filled with pus and cheesy material. The ureter was greatly dilated. In the other kidney, the structure proper to the organ had almost completely disappeared under the influence of hydronephrosis. The bladder-walls were thickened and coated with pus. The prostate was broken down. Urethral stricture did not exist.

Dr. HEINEMAN said that the case was interesting inasmuch as there had been acute and chronic tuberculosis without fever. He, however, regarded this circumstance as of less frequent occurrence than did some physicians. The genito-urinary symptoms were of old date in this case, while the condition in the lung seemed to be of comparatively recent origin. It was probable, he thought, that the hydronephrosis in one kidney antedated tuberculosis; that, in consequence, the other kidney, having to do double work, became hypertrophied; and that upon this process there afterwards developed tuberculosis.

Dr. HEINEMAN also presented specimens from a child which had suffered from diphtheria, and, before the symptoms of this disease had entirely disappeared, pneumonia supervened, and afterwards empyema developed. The patient improved after the pus found exit from the pleural cavity, but the general condition was so low that death took place. At the autopsy, acute pulmonary tuberculosis was present, and pericarditis.

Dr. V. P. GIBNEY referred to a somewhat similar case, and spoke of the difficulty of recognizing the pericarditis.

Dr. HEINEMAN also presented a heart which weighed thirty-seven ounces and was the seat of hypertrophy and dilatation and of acute ulcerative endocarditis, but there had been no chill nor febrile movement. The case was specially interesting from the negative history.

Dr. BEVERLY ROBINSON presented a heart with a diaphanic interventricular septum. He also presented some specimens removed from a patient who during life had no cough nor expectoration, nor stethoscopic signs of pulmonary consolidation, although at the autopsy there existed well-marked hepatization. On the other hand, the heart was normal, whereas during life there had been a distinct murmur pointing to aortic stenosis. The kidneys were the seat of chronic interstitial nephritis; and the question arose whether this form of Bright's disease could have been due to the existence of a slight urethral stricture. There was no cystitis.

Dr. PEABODY and Dr. FURGESON replied that they believed the cystitis was, as in many other cases, independent of the urethral stricture.

LESIONS OF PERNICIOUS INTERMITTENT FEVER.

Dr. G. L. PEABODY presented the brain, liver, and spleen of a man who had recently died of pernicious intermittent fever, probably contracted in the West Indies, from whence he had arrived on the 1st of January. There was no elevation of the temperature until just before death. He entered in a state of apathy; coma developed, in which condition he died. The organs presented were deeply stained with blood-pigment. In the brain this was confined to the lumen of the blood-vessels. The same was probably true of the liver and spleen, although less easily demonstrable.

REVIEWS AND BOOK NOTICES.

RECHERCHES CLINIQUES ET THÉRAPEUTIQUES SUR L'EPILEPSIE, L'HYSTÉRIE ET L'IDIOTIE. Par BOURNEVILLE, Médecin de Bicêtre, et BONNAIRE et WUILLAMIE, Internes. Paris, 1882.

This book of nearly two hundred pages is composed of an annual report of the medical service for epileptics and idiots in the Bicêtre for 1881, and of observations made in this hospital upon various cases. The extent of the field for observation may be judged of from the fact that at the beginning of the year there were one hundred and fifty-two adults and one hundred and twenty-six infants in the wards. A curious and not very creditable incident of the year was the syphilitic infection of a number of the male children by a nurse of pederastic tastes and practices.

The notes on idiocy occupy some fifty pages, filled with most elaborate clinical and post-mortem notes of cases arranged pathologically under headings of sclerotic hypertrophy of the convolutions, meningo-encephalitis, and microcephalic development; and some of the cases are very well illustrated by lithographic plates.

A long account, with numerous thermometric reports, is given of an epidemic of measles which occurred in the hospital during the year. Among what may be called miscellaneous cases we notice a very interesting account of a well-pronounced typical hystero-epilepsy occurring in a boy and cured by the conjoint use of repeated cold douches, given, twice a day, for from thirty to forty seconds by means of a rain and jets (lateral?), gymnastic exercises, and the monobromate of camphor. Several cases are detailed in which the bones or joints were affected in persons suffering from nervous disease, and the fact that the victim of locomotor ataxia may simultaneously suffer from rheumatism is clinically established, whilst the differences between such arthropathies and those of trophic origin are clearly pointed out. A case of osteomalacia with epileptic convulsions in a woman whose autopsy showed no cerebral disease is of interest, as bearing upon the question of the existence of the neurotic temperament without definite nerve-lesion. Intestinal lesions and bone-disease existed, and there was a family history of severe nervous diseases in the immediate families of both father and mother, whilst nine sisters or brothers had had convulsions. With such an inheritance of weak, uncertain nerve-centres, peripheral lesions or general malnutrition seems sufficient to awaken an epilepsy.

Enough has been said in regard to the brochure before us to show its character and scope; it is a valuable record of well-observed, carefully-detailed cases, a storehouse of laboriously observed disconnected facts,—the bricks, so to speak, out of which is built the great temple of medical knowledge; not a systematic popular treatise, but a book for the few who think and systematize upon observations made by others as well as by themselves. H. C. W.

PHYSICIANS' VISITING LISTS.

"The Medical Record Visiting List, or Physician's Diary for 1884," published by William Wood & Co., New York, contains, in addition to the usual tables, metric system, etc., articles upon the proper doses of drugs for hypodermic use, by the mouth, and inhalation; on disinfectants, the urine, poisons, emergencies, on asphyxia, and other topics required for immediate reference. The dates are consecutive, a week to a page, the paper is good, the book being gilt-edged and bound in soft Russia, fastening with a rubber band if desired.

"The Physician's Visiting List for 1884," by Lindsay & Blakiston, is now in the thirty-

third year of its publication, and will need no extended comment. It contains the usual introductory matter, including a Posological Table and Silvester's Method for Artificial Respiration. It is dated like the preceding, strongly bound, fastening with a flap, and is a useful book.

"The Physician's Daily Pocket-Record, comprising a Visiting List, many Useful Memoranda, Tables, etc.," by J. W. Butler, M.D. A new and thoroughly revised stereotype edition, with Metric Posological Table, etc. Edited by D. G. Brinton, M.D. This book fastens with a clasp, and is strongly bound: it is now in the eighteenth year of continuous publication. The introductory matter is more extended than in either of the foregoing. The Posological Table, the article on Treatment of Emergencies, and the Table of the Urine, are especially noticeable. The arrangement of the visiting list, also, is different. While each double page is devoted to one week, the figures are not introduced, so that it may be used for any week or any year. The pages are numbered, so that an index may be made at the end for easy reference in making out accounts. It also contains a good Obstetric Record, and one of deaths and vaccinations, besides the usual memoranda and cash accounts.

GLEANINGS FROM EXCHANGES.

MYXŒDEMA.—At the meeting of the Clinical Society of London, on November 23, an interesting debate took place upon the subject of myxœdema, in which Sir W. Gull, Dr. Ord, and other observers whose names have been associated with our knowledge of the disease, took part. A valuable communication was made by Dr. Felix Semon of a series of cases of myxœdema occurring after extirpation of the thyroid gland, by Prof. Kocher, of Berlin, who, not being acquainted with the disease as such, had described his cases as a peculiar form of cachexia: in sixteen instances of complete removal the myxœdematous changes had been observed, whilst in the cases of partial removal the results upon the general health had been satisfactory. The previous belief in the intimate connection existing between the loss of the thyroid gland and the development of myxœdema was undoubtedly strengthened by the evidence which the discussion called forth, but it was no less evident that there are at present no facts extant by which the nature of that connection can be determined.—*Medical Times and Gazette.*

A CASE OF IDIOPATHIC GANGRENE OF THE UTERUS.—A paper, by Mr. Lawson Tait, was read before the Obstetrical Society of London (November 7), containing an account of a remarkable case. The patient, aged 34, was admitted into hospital on account of vague pelvic pain and offensive watery discharge. The uterus felt soft and flabby, the abdomen was swollen, and there were feverish symptoms. The patient died forty days afterwards, and on post-mortem the uterus was found a black, sloughing, stinking mass, having only about a square inch of normal tissue. No reason could be discovered for the gangrene. No operative treatment was permitted, or else it would probably have been quite easy to remove the dead uterus by abdominal section. —*Medical Times and Gazette.*

CIMICIFUGA IN EPILEPTIFORM NIGHTMARE. —Dr. Ed. M. Small, of Eastport, Maine, sends us the report of a case occurring in his practice almost identical with one published recently in these columns in the report of Prof. H. C. Wood's clinic. The disease was epileptiform nightmare, and it was cured in Dr. Small's case by half a teaspoonful of powdered *cimicifuga racemosa* being administered at bedtime. The paroxysms at once ceased, and there had been no return in a lengthy period of observation. The patient also was ordered to partake of only a light supper each night.

MISCELLANY.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The annual meeting of this Society will be held at Philadelphia on May 14, 15, and 16, 1884, in the assembly room of the Union League, Broad and Walnut Streets. The President's reception and the entertainment by the Philadelphia County Medical Society will be held on the evening of May 14, at the Pennsylvania Academy of the Fine Arts, Broad and Arch Streets.

The by-laws require the programme of the meeting to be printed and distributed at least one month before the date of the meeting, and no voluntary paper is allowed to occupy more than twenty minutes in its reading.

Notice is hereby given that all those who wish to present papers should send the full title and a short abstract of the same to the Committee on Arrangements on or before March 1, 1884, in order that a varied and attractive programme may be prepared.

No paper will be selected for a position upon the programme of the meeting unless an abstract has previously been seen by the Committee.

JOHN B. ROBERTS, *Chairman*,
1118 Arch Street, Philadelphia.
By order of the Committee.

THE second annual meeting of the National Association for the Protection of the Insane and the Prevention of Insanity was held in this city on January 22, when the

following officers were elected for the ensuing year:

President.—Dr. Joseph Parrish, of Burlington, N.J.

Secretary and Treasurer.—Dr. Charles L. Dana, of New York.

Executive Committee.—Dr. Parrish, Dr. Dana, Dr. Edward C. Seguin, of New York; Dr. J. C. Shaw, of Brooklyn; Dr. Alice Bennett, of Norristown; Dr. W. B. Atkinson, and General John F. Hartranft, of Philadelphia.

The annual report of the Executive Committee on Finance and of the editors of the *Quarterly Journal* was read, after which the members were entertained at luncheon by Dr. Atkinson.

A NEW SOCIETY FOR THE CULTIVATION OF MEDICAL JURISPRUDENCE.—A meeting of a number of invited gentlemen, representing both the legal and medical professions, was held at the hall of the College of Physicians, Friday evening, January 18, 1884, for the purpose of forming a permanent organization for the study of forensic medicine. Prof. S. D. Gross was called to the chair, and announced the object of the meeting. Prof. Henry Leffmann was appointed Secretary. Among those present were W. S. W. Ruschenberger, M.D., John H. Packard, M.D., J. J. Reese, M.D., Albert H. Smith, M.D., Samuel Wagner, Esq., Charles K. Mills, M.D., L. P. Pritchett, Esq., Hampton Carson, Esq., and Frank Woodbury, M.D. It was resolved to form a society for the objects stated, and a committee was appointed to draft a constitution and by-laws. The next meeting will be held on the third Tuesday in February, when the permanent organization will be completed. About fifty members of the Philadelphia bar, and thirty physicians of prominence of this city, have already expressed their desire to join the Association.

PROF. WOOD'S LECTURE ON "DOCTORS AND HOW THEY WORK."—The second of the course of popular lectures given at Association Hall, under the auspices of the University of Pennsylvania, was given on Friday, the 18th instant, by Prof. H. C. Wood, who discussed the *raison d'être* of medicinemen and the methods of a past age as compared with those of the present day. Incidentally, homœopathy, or, more correctly, Hahnemannism, was considered, and, although declared in itself to be absurd and false in its claims, yet it was said to have exerted a great influence in the genesis of modern medicine, by demonstrating the recuperative powers of nature, and the benefits of doing nothing rather than adopting heroic medication in self-limited diseases. The lecture-hall was filled by an intelligent and attentive audience.

THE ANNUAL MEETING OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY was held January 2, when the following officers were elected for the ensuing year: William M. Welch, President (second term); William S. Forbes and S. R. Knight, Vice-Presidents; Henry Leffmann, Recording and Reporting Secretary; M. S. French, Corresponding Secretary; L. K. Baldwin, Treasurer; C. M. Seltzer, Librarian; H. St. Clair Ash, Censor. Among the candidates to be balloted for were the names of two women physicians, who failed to get the required two-thirds vote.

NOTES AND QUERIES.

A SCRAP OF HISTORY OF PERKINS'S TRACTORS.

The publication of a new edition of Dr. Holmes's "Classical Essays on Homœopathy and Kindred Delusions" revives a temporary interest in Perkinism. The following hitherto unpublished extract may give a faint idea of the state of mind that prevailed in this country at the time this delusion prevailed. It is kindly contributed by Dr. W. Thornton Parker, and is an extract from a letter from Dr. Benjamin Parker to his son, Dr. W. Thornton Parker, Sr., dated November 11, 1842:

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"I am much pleased with Holmes for the most part; but I have not had time to read him through. All about Perkinism is perfectly correct and true. I lived in those times, and was in the midst of the excitement. A gentleman in Virginia sold a plantation and took the pay for it in tractors, which tractors died on his hands. Nothing was more common than to buy horses and carriages with Perkins's tractors. But the worst effects of the delusion Holmes has silently passed over. The yellow fever prevailed in New York to a great degree, and proved fatal to thousands. Perkins thought he could cure the fever with his tractors, and went into the city while raging, and, as might be expected, he immediately fell a victim of his own folly."

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 5, 1884, TO JANUARY 19, 1884.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort Huachuca, Arizona. Paragraph 9, S. O. 119, Department of Arizona, December 27, 1883.

BREWSTER, W. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Resignation accepted by the President, to take effect February 7, 1884. S. O. 10, A. G. O., January 12, 1884.

EGAN, P. R., FIRST-LIEUTENANT AND ASSISTANT SURGEON.—Upon reporting of relief, to proceed without delay from Fort Huachuca, Arizona, to Fort Apache, Arizona, and report to the commanding officer for duty at that post. S. O. 119, Department of Arizona, December 27, 1883.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING WEEK ENDING JANUARY 12, 1884.

Surgeon D. MCMURTRIE ordered to the Naval Rendezvous, Philadelphia, Pa.

Surgeon A. F. PRICE detached from the receiving-ship "St. Louis" on the 15th and ordered to the U.S. steam-ship "Ossipee" on the 22d.

P. A. Surgeon A. C. H. RUSSELL ordered to the U.S. steam-ship "Ossipee" on the 22d.

P. A. Surgeon H. C. ECKSTEIN detached from the Naval Hospital, Philadelphia, and ordered to the receiving-ship "St. Louis."

P. A. Surgeon HOWARD WELLS from the Naval Rendezvous, Philadelphia, and ordered to the Naval Hospital, Philadelphia.